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Economic Principles and Modern Practice

By

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and

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SECOND EDITION



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PREFACE

THIS BOOK, an outgrowth of many years of experience in teaching economics, has but one aim, to help students who are making their first systematic attempt to understand the economic life about them. Because college students know few economic facts accurately, it devotes much space to description, but the description is always intended to further understanding. Because no one can comprehend the economic life of the present without knowing what it came from and what ideas are built into it, the volume embodies something of economic history and some account of the economic thought of the past, though the amount is regrettably small. And because no one can understand the bewilderingly complex economic activity of the present without aid from the tools of economic analysis fashioned by the economists, the most essential of these tools are here made available.

It has been the belief of the authors that many elementary texts subject beginners to an exposition of analytical processes which can have meaning and profit only at a more advanced stage of study. Every teacher knows that many students range over the entire area of theoretical economics and emerge from the survey having assimilated nothing. The simpler presentation here attempted grew out of the conviction that to acquire mastery of the first steps in theoretical analysis was of more enduring value than to make a superficial acquaintance with the more difficult aspects of the analytical apparatus without comprehending any of it. Therefore the exposition of methods of analysis has been rigorously limited to what are conceived to be the fundamentals necessary for clear thinking and for further study. By this mingling of economic description and economic theory, with a seasoning of history, it is hoped to make of economics a living and a fruitful study, not one so shorn of reality, so reduced to formula, that the student is repelled by its apparent lack of any connection with the economic world about him.

The final work has been done by one of the authors alone, but the intention has been to carry out in every way possible the joint plan as it was originally conceived. Only those whose intellectual life has been quickened and enriched by intercourse with Mr. Mussey can realize how much of potential value the volume has lost because of his death before the work was completed. Though

his incomparable power as a teacher cannot be perpetuated by the written word, yet some of the words which follow are so imbued with his interest in the life around him, and with his desire that the students he taught should understand and share in that life and help to shape it to better ends, that perhaps even from the printed page they may carry with them a slight suggestion of the spirit of his classroom.

Generous aid and helpful advice have come from many individuals who cannot be mentioned by name, though the debts are large. Mr. Lawrence Smith and Miss Elisabeth Curtiss, of the Department of Economics of Wellesley College, have made innumerable useful suggestions, as have teachers in many other institutions. Without the skillful and ever ready assistance of the librarians of the Wellesley College Library final work on the volume could have been accomplished only with the greatest difficulty. Lastly, the book is a much better book than it would otherwise have been because of the wealth of helpful and constructive criticisms made by Professor Walter B. Smith, of Williams College. To all those, mentioned and unmentioned, who have contributed to whatever value the work possesses, the writer's sense of gratitude is deep.

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PREFACE TO THE SECOND EDITION

AT THE TIME WHEN THE FIRST EDITION of this volume was written, "modern practice" was peacetime practice; but before the volume was off the press, many of our practices were those of a nation at war. Again we are returning to the practices of peace which we hopefully consider the normal way of life. While the impact of the war on economic activities is reflected in the rewritten text, the emphasis is still upon the production and consumption of a world at peace. Criticisms and suggestions innumerable, offered by both teachers and students who have used the volume, have contributed to the changes embodied in the present edition. The most caustic of the criticisms and the most illuminating of the suggestions have come from the members of the Department of Economics and from the students of Wellesley College. To them, therefore, the obligation of the writer is greatest, but it is by no means limited to them. Content and clarity have profited—or so it is hoped—from a multiplicity of suggestions coming from widely differing groups. To all those who by their disapproval have helped to make this a more useful book, the writer here returns her thanks.

ELIZABETH DONNAN

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PART ONE

THE ECONOMIC SYSTEM

CHAPTER ONE

Capitalism: An Economic System

Economics may be defined as the study of the way in which a society is organized for the purpose of making a living, and of the manner in which the organization works. It may be defined also as the study of "human behaviour as a relationship between ends and scarce means which have alternative uses."[1] A great amount of paper has been covered in proving that one or the other of these definitions, or of many possible variants, is *the* correct definition. In the process of adjusting scarce resources to desired ends men do make a living; in making a living they do allocate resources to ends. The activities which accomplish the one result accomplish the other also, and it is not necessary here to determine which description better fits our study. It is the functioning of the economic system which we are to study, "the combination of principles and practices according to which the daily activities of individuals are brought into relation with one another to provide for daily needs."[2] At the present moment there are two principal economic systems holding sway in different parts of the world: capitalism and communism.[3]

Capitalism is most highly developed in countries like Great Britain and the United States. It has been the ruling economy of the European continent west of Russia, of the Australian continent, and of the Western world in general; though there are immense land areas, and sometimes entire countries, in the Americas, that can scarcely be said to have been brought within the capitalistic system. It is today producing a powerful impact on the hundreds of millions of China and India, who have lived for ages under systems utterly different. Communism, which organizes the production and distribution of income in a manner basically different from capitalism, prevails throughout the countries of the Soviet Union, covering no less than a sixth of the land

[1]Lionel Robbins, *An Essay on the Nature and Significance of Economic Science* (Macmillan & Company, Ltd., 1932), p. 15.

[2]Caroline Ware and Gardiner Means, *The Modern Economy in Action* (Harcourt, Brace and Company, 1936), p. 5.

[3]At this point the authors use the word "communism" in its older sense, for any collective economic society, making no attempt to distinguish between communism and socialism. For such a distinction see Chapter Forty-one.

surface of the earth. In almost all countries there are at least small groups of communists who challenge the existing capitalistic organization and seek to substitute their own system. In order to understand the economic organization of the world today, therefore, it is necessary to understand both capitalism and communism; but since our first aim is to gain an understanding of our own life, our attention will be devoted primarily to an examination of capitalism as it has developed and as it works today in the United States.

Complexity of Our Economic System

Our present order is much more complex than those that have preceded it. The earliest human societies, however simple, had wants and systems of economic organization and control to satisfy their wants. Throughout the long millennia of social development those economic systems have continuously changed, adapting themselves to the endless changes that have taken place in men and their surroundings—changes in their wants and in their knowledge, changes in their natural environment and in their ability to utilize both that environment and the materials derived from it in order to satisfy their ceaselessly expanding wants. The general movement has been from small and simple economic groups to large and complex ones, with lines of interdependence almost inconceivably intricate. Some idea of the distance already traveled in the course of this development may be gained by comparing the economic organization of one of the simplest of existing societies with that of our own.

In the bush country of Australia there are to be found considerable numbers of native tribesmen who live in little independent groups of not more than a couple of dozen persons, in practically complete isolation from all other people. Each of these groups is thus a separate society that has to make its own living. They live what seems to us an almost subhuman life, generally at no great remove from hunger. Their few and simple needs they meet by appropriating various plant products that grow wild, and by hunting the few wild animals that they can find. They eat practically everything edible on which they can lay hands; their clothing is of the simplest; their shelters do not deserve the name of houses. Under the direction of the headman the handful of men in such a group co-operate in certain ways for the chase or other common activity, while the women perform most of the drudgery and take care of the children. What little they have they share largely in common, feasting or starving together. Their whole life, from birth to death, is thus lived out in isolation, within a geographical range extending over comparatively few miles. So far as they are concerned, the rest of the

world might as well not exist. The organization of their life is so simple that it seems to us almost no organization.

Compare with this primitive existence life in the United States today, in respect to the wants men have developed, the income they enjoy, and the organization by which it is provided. An ordinary American is dependent every day of his life on the co-operation not only of a hundred and forty million fellow citizens but on the aid of uncounted other men all over the earth. His morning coffee comes perhaps from Brazil, the rubber of his automobile tire from Africa or Malaya. At one given moment he may be wearing cotton grown in Texas or Egypt, wool produced in Australia, and silk reeled from cocoons spun by the carefully tended worms in a Japanese village. These fibers were brought thousands of miles by rail and water to be worked up in the mills of Manchester and Pawtucket and Paterson, again to be sent hundreds of miles to Rochester or Chicago to be transformed into clothing, which in turn was distributed by a nationwide sales organization and transportation system to retail dealers throughout the country, and so finally to the wearer. In addition to performing the physical task of growing, preparing, and transforming the fibers that provide the American's everyday clothing, and transporting the materials and the finished product, the economic organization of which he is part provides a system of accounting, control, and direction that somehow, through the machinery of price, money, and credit, maintains these various activities in such relation to one another that all the various processes work together to produce the goods that finally serve him.

The economic organization, moreover, embraces the activities not only of a single industry but of all the endless variety of industries and occupations that make up American life today. All are tied together into a single unified system of interrelated and interdependent parts, none of which can function independently. The living produced by the working of this system is almost incredibly rich and varied, with a volume and variety of products, material goods and services alike, of which the men of earlier times could not even have dreamed. Through a system of money claims, largely created in the process of production itself, the products are divided up year by year among all the people, some getting more and some less. Though the organization by which an American lives is of a complexity almost inconceivable, in general he is scarcely conscious of its existence. He takes its continuous functioning for granted, just as he takes for granted the unending succession of day and night. Yet the machinery may be brought to a complete stop, say by a general strike, and literal starvation for whole communities may be just around the corner. Or the different parts of the mechanism may get out of proper relation to each other; and millions of people may be cold and hungry, while

mineowners and farmers are going bankrupt because they cannot sell their products at a profit. By contrast with the Australian Bushmen, we thus have an economic system of a size, a complexity, and a delicacy that make it appear a wholly different thing. Yet the two systems are in reality serving essentially the same purpose: each organizes the activity of the community to the end of making a living, and each divides that living in some fashion among the members of the community.

What the Economic Organization Does

In beginning the study of economics it is essential to grasp clearly the basic function of the economic organization. This function, clear enough in the simpler societies, is not infrequently ignored, forgotten, or even denied in the complexities of trade, money-making, and finance that characterize modern economic arrangements. But no matter what the stage of social development, the purpose of the economic system of any society is to produce the goods and services by which it lives and to distribute them among its members. The proper functioning of the system is fundamental to every aspect of living. Men, we say, must eat to live.

The economic organization must provide the goods necessary for life. But man does not live by bread alone. A successful economic system must provide for the satisfaction of man's intellectual and aesthetic needs as well as for those wants on which life itself depends. Still more is demanded. The kind of work men do and the conditions under which they do it help to determine the kind of men they are, as well as the amount and character of the goods they enjoy. Thus a satisfactory economic system not only provides men with the goods and services they desire but does so under conditions which will not degrade the producers of the goods.

Every community, be it a group of Bushmen or a nation of modern Americans, must live off the products of its own industry, unless it plunders other communities—a means of making a living by no means unknown historically, and not altogether disreputable as history goes. Even if we note that Americans live in part on imported products, which they get by trade, we have done no more than remind ourselves that the economic community to which contemporary Americans belong is not limited to the United States, but has become in part world-wide, and that the organization is by so much the more complex. In studying the American economic organization, we have to take these world relations into account, but we center attention on our own problems. We study money and credit and prices, wages and profits, trusts and trade-unions, stocks and bonds, government regulation of railroads and pub-

lic utilities; for these are the everyday realities of which our economic system is made up. But the question that concerns us is, at bottom, How do all these institutions and arrangements work to put into the hands of Americans the services which make life possible? Those services are not money and wages and profits and stocks and bonds, but the use of bread and meat and whisky and shoes and clothes and houses and movie performances and automobiles and baseball games and dog races and symphony concerts and quiz programs. Our entire financial and business machinery, rationally viewed, is a means to the end of turning out and distributing these real things that are the external basis of modern life. Business, indeed, often becomes an end in itself to those who carry it on, and even to those who try to think of its place in community living; but the student cannot too often remind himself that from the standpoint of intelligent social thought business is always means and not end. The farmer, the businessman, the banker, justifies his activity not by making a living out of it, for the swindler or the kidnaper does as much, but by performing a service in the complicated task of providing the community with its living. The student of economics is concerned to discover just how the whole existing organization provides the living of the community, at what points it seems to fail, and how, if possible, it may be made to provide a better living.

Modern Technique, Organization, and Control

The evolution of economic life from such simple types as that represented by the Australian Bushmen to the American economy of today follows two lines: first, the development of technique; secondly, the development of organization and control. With the changes in technology and organization has come an enormous expansion in the extent and variety of wants to be satisfied and in the capacity of the economic system to satisfy them. The development of technique is a matter of applied natural science and depends primarily on the progress of pure science and the ingenuity with which practical applications are worked out. Technical progress requires the solution of engineering problems, the application of scientific knowledge to physical things. On this technical side the most striking difference between the past century and a half and all previous human experience, so far as concerns the business of making a living, is that the modern world by means of machines utilizes extra-human power to accomplish human purposes. The problems of organization and control of industry, which change as technical methods change, are strictly economic problems. The splitting of the atom and the discovery of ways whereby the untold energy thus released can be harnessed to industrial pur-

poses are problems for the physical scientists. The new techniques made possible by their work will create a Pandora's box of economic problems of organization and control which may not be solved for generations. The steam engine brought into being the factory and the railroad. As a consequence, instead of the small individual establishment and the local market, we have the giant corporation and the world market. A dozen directors control the activity of a hundred thousand workers. Pittsburgh makes steel for San Francisco; the Nebraska farmer scans the daily market reports of the Chicago Board of Trade before he decides how to market his crops.

Before the machine period, also, there existed nothing comparable with the flow of consumption goods that rolls in a flood from our producing machinery when it is functioning smoothly. The machine, for the first time in the world's history, brought the possibility of an economy of abundance instead of scarcity, to employ two popular but loose terms. Always in the past the world has been miserably poor. Since the eighteenth century the technique of production has advanced with such strides that in the United States today we could without difficulty produce a comfortable living for every American if only we could learn how to run our plant continuously and how to get the goods into the hands of those who would like to have them. It is this new possibility that lends surpassing practical importance to the problem of economic organization and gives practical interest to economic study.

If we represent the whole period of human life by one hundred years, then men have had machines for about ten days in all. Small wonder that in those ten days they have scarcely made a beginning at adapting their thinking, to say nothing of their institutions, to a set of conditions utterly different from those to which they had painfully accustomed themselves during their entire century of life. They still think largely in premachine terms. Economic, political, and social institutions, which are the means of organization and control, are often premachine institutions. It is not strange that we today are puzzled, nor is it strange that we find ourselves in the midst of fundamental institutional changes whose outcome no man is wise enough to foretell.

Capitalism

The system of economic organization and control existing in the United States we call capitalism. Its essential features, as we know it, are (1) private property in production goods, (2) free enterprise and competition, (3) the wage system, (4) private profits, (5) control through price. In thinking of contemporary capitalism, as contrasted with eighteenth-century capitalism, we must remember that it is based on machine technique and mass produc-

tion, and that its problems must be worked out without surrendering the untold advantages of the machine. But the machine technique, though it is a characteristic of modern industry, is not peculiar to capitalism. The communists of the Soviet Union have devoted their first efforts to the mechanization of their industries. Indeed, they maintain that only under their system of organization can the possibilities of machinery be fully realized. While machine technique is thus a feature of present-day capitalism, it is not a differentiating feature. The particular characteristics of our system are the five enumerated above, to a brief consideration of which we now turn.

1. Private Property in Production Goods · In organization and control, just as truly as in technique, our present capitalistic economy differs from earlier systems, yet grew out of them. Though the machine is technically a new thing, it is the lineal descendant of that long line of tools and implements that have helped man since the remote days when he first learned to shape the stone ax. Tools and weapons almost everywhere and always have been individually owned; they belonged to the man who used them. Sometimes they were so completely identified with their owner that they were buried with him. Land, of course, had to be subject to a kind of common ownership or control as long as it constituted the hunting or grazing ground of groups or tribes. With the coming of agriculture, however, it too became in a sense individual property, though a long development was necessary before the complete individual ownership of today became the rule. Thus, broadly speaking, the means of production, what the economist calls producers' goods or capital goods, have been privately owned from a time long before the beginning of recorded history. Ownership of producers' goods is perhaps the most fundamental means of organizing and controlling production of income, because the owner by virtue of his ownership is in a position to dominate the productive process.

The capitalistic economy of the United States and other modern countries has carried over into our present-day organization the principle of private ownership of production goods. While there are great and growing amounts of public property, that is, property owned by the organized state, basically the means of production belong to private persons. But this ownership is no longer the simple thing it was before the days of the machine, when a man owned the tools and implements he used and perhaps the land he worked or let others work. Private property has now split into two different categories—individual property and corporate property—alike in not being state-owned, but unlike in almost every other respect. Despite the differences they are both, in the eyes of the law, private property. We still have large amounts of

individually owned production goods. They represent ownership of the old type, carrying with it all the old responsibilities and powers. This is the ownership of the farmer or the merchant or that of any man who owns and runs his small business. In addition, we have today a wholly new type of private property. Immense amounts of wealth are now owned not by individuals directly but by corporations, which, in turn, are owned by their stockholders. The powers and duties of the stockholders and the officers of corporations are almost as new a thing in human experience as is the machine, and consequently we are faced with puzzling new problems of intracorporate relationships. The billion-dollar corporation itself, of which there are today more than a dozen in the United States, is an even newer thing than the mere corporate form of business, and presents problems of public policy certainly not less puzzling than those of the relations between individuals within the corporation itself. The largest corporation in the United States, the American Telephone and Telegraph Company, owns more than four billion dollars' worth of property, situated in every state of the Union. Plainly the ownership of this economic empire, which in fact is managed and controlled by a board of nineteen directors—or, more accurately, by a part of that board—is profoundly different, both in kind and in results, from the ownership, by an ordinary individual human being, of a country grocery store, worth, with its stock, perhaps a couple of thousand dollars and actually run by its owner with the help of an assistant or two. Our law, however, for most purposes treats the corporate owner like the individual owner. The thing each owns is private property. When we say, therefore, that a foundation stone of our system of capitalism is private property in production goods, it is essential to remember always that the term includes two different kinds of ownership and that our law confers on both the individual owner and the corporation certain basic rights, powers, and responsibilities supposed to be legally inherent in their ownership. To study the working of our economic system is thus to examine the operation of our existing scheme of private property in production goods, whether the owner be an individual or a corporation.

2. Free Enterprise and Competition · Out of private property in the means of production grows the second outstanding feature of our scheme of organization and control, namely, what we call free private enterprise. This feature constitutes the heart of capitalism. By the term "free private enterprise" or "free private initiative" we designate a system under which property owners and their agents are free to carry on, at their own risk, what enterprise they will in what way they will, subject only to the limitations imposed by the law. We do not mean that men necessarily enjoy political freedom. We do not

even mean that most men have anything more than nominal freedom to carry on enterprise. Opportunity to do so is limited to those who own or can get control of productive equipment, such as land and factories, machines and shops. The mass of men, save under exceptional circumstances such as have sometimes prevailed in those parts of the United States where land was easily obtained, do not own the means of production. An unskilled day laborer today is not "free to carry on enterprise" in any practical sense. On the contrary, in order to live he must find someone to hire him. It is important to keep clearly in mind just what we do and what we do not mean by free private enterprise. Otherwise we quickly fall to arguing over words instead of realities. By the term "free private enterprise," then, we actually mean that under our system industry takes the shape it does, and turns out the goods it does in the amounts it does, because of the decisions of millions of independent persons, each acting primarily in what he conceives to be his own independent interest or that of the organization for which he acts.

We have already indicated that private property is of two types. Correspondingly, we have two classes of businessmen. First, there are the millions of farmers, small shopkeepers, small businessmen of every sort. They have money or credit enough to get hold of a farm, a shop, a wayside garage, whatever little enterprise you will, and they run it as they like as long as they can make a living or something more out of it. At the other extreme in the scale of business enterprise are the directors of great corporate undertakings such as the Pennsylvania Railroad, the United States Steel Corporation, or General Motors. Though they often exercise a power far exceeding that of princes and potentates, they frequently own but a trifling share of the stock of the immense corporations they direct; but they have the ability to induce a multitude of small and large owners (their stockholders) to entrust to their management and control the enormous properties of the corporation. Thus, by virtue of their office, they obtain in effect the same powers of management and control over the huge properties of the corporation that the individual owner exercises over his own tiny property by virtue of the fact of his ownership. Within a single system of free private enterprise we thus embrace two widely different schemes of private management and control, individual and corporate; but in both, the decisions are made by private persons with a primary view to the private interests of themselves or their stockholders, and not by public officials presumably with a view to the public interest, however that interest may be defined. To say this, of course, is not to deny that the public interest may be and commonly is served thereby. Indeed, our whole theory of private enterprise is based on the assumption that the public interest will thus be advanced; but the essential initiative is the initiative of private

persons, who, it may reasonably be assumed, however public-spirited many of them are, seek essentially their own advantage.

As a result, every private undertaking is subject to the competition of other private undertakings whose proprietors likewise seek their own interest. Competition is exceedingly irregular in its operation, but under our system every enterprise must be prepared to meet the competition of all comers, whether it be a competition in the sale of its product or a competition for available labor, raw material, or capital. Even monopoly undertakings face the competition of substitutes and, in seeking additional funds for carrying on their business, must sell securities in rivalry with other concerns offering securities in the market. The reverse side of free private enterprise, from the standpoint of the businessman, is thus competition. It is impossible to escape its operation altogether, however eager a firm may be to do so, and however powerful it may be. Our contemporary capitalism is therefore often spoken of, and properly enough, as a system of competition, and competition is thought of as its ruling principle. Such a statement does not mean that competition works uniformly to hold all businessmen in check. Monopoly elements are far from rare. As a matter of fact, our study concerns itself in no small degree with the extent to which competition does and does not make itself effective under the varying actual conditions prevailing in different sections of our industrial system and with the varying problems of public policy that present themselves in consequence.

Closely tied to free private enterprise and competition, though not identical in meaning with them, is another feature of our capitalism, laissez faire, or noninterference of government with industry. A scheme in which enterprisers are free to follow their own desires, make their own choices, and take their own risks, and in which industry is controlled solely by economic forces such as prices and profits rather than by government regulation—that is, a complete laissez-faire economy—has never actually existed and is scarcely conceivable. When we speak of a laissez-faire policy as a characteristic of capitalism, we do so with many reservations which will appear in later pages.

In examining free private enterprise and laissez-faire practice as we know them, it is well to bear in mind that, like machine technique, they are comparatively new things. During the centuries when the medieval economic life was slowly changing there was nothing approaching our present system. Customary wages and prices and public regulation of both the production and the sale of goods held the activities of the medieval businessman within such narrow limits that he bears little resemblance to his modern successor, forever restlessly taking up whatever new thing promises him gain. Only as these restrictions were relaxed did free enterprise and competition emerge.

The machine technique and the competitive system thus worked together during the nineteenth century to bring into existence an economic life different from all that had preceded it. It differs not only in its material equipment and its power resources, but scarcely less in its organization and agencies of control.

3. The Wage System · A third characteristic of capitalism is its scheme of labor control, which we call the *wage system.* Under practically all known historical arrangements propertyless men have had to make a living by working for those who held the power over them, be that power military, political, or economic. Capitalism furnishes no exception to this rule, but provides a new method of exercising the compulsion to labor. It gives the worker vastly important new liberties, but exposes him to new dangers. Under slavery, and the various forms of servitude short of slavery, the master had legal power to exact labor service directly from the worker. With the disappearance of serfdom and the subsequent changes in labor law the worker became legally free; that is to say, he was no longer under legal compulsion to work for a particular master, or indeed for any master at all. Legally, he might work or not, as he pleased. The necessity of making a living, however, compelled him to work for those who owned the means of production, unless, as in the days of cheap or free land in the United States, he could possess himself of such means. Hence property owners as a group still held the power to direct the labor of the unpropertied workers.

The rates of pay and conditions of employment in each specific industry today are determined, nominally at least, by a voluntary agreement between employers and employees, the actual terms being fixed by their comparative bargaining strength and skill, which in turn depend on a multitude of considerations to be examined later. Outside working hours the two parties to the wage bargain have no legal rights or duties with reference to each other except those existing between all citizens of the state. The employer is not legally responsible for the welfare of his employees, nor has he any legal right to claim jurisdiction over their lives outside the work period. These are the essential arrangements constituting the wage system, which is the form of labor control characteristic of developed capitalism. Since the vast majority of men do not directly own any productive property, the actual operation of the wage system is of the highest importance in any consideration of the relation of capitalism to general well-being.

4. Profits and the Profits Motive · The desire to make profits is often pointed to as the motive power of the capitalistic machine. Rightly understood, it is.

Any organization of economic life that took away the lure of private profit would be fundamentally different from our present capitalism. But the actual motives that dominate men in carrying on their ordinary occupations are extraordinarily diverse. A shoe cobbler may go back and forth to his shop every day for forty years with the primary thought of making a living and doing an honest job of shoe-repairing. A James J. Hill may build a transcontinental railroad in pursuit of an imperial ambition to build railroads or to get the better of a great rival. A Russell Sage may accumulate millions by skillful moneylending just for the fun of accumulating them. A great speculator may make and lose a dozen fortunes in a lifetime because he likes the excitement of it. A Henry Ford may pile up an enormous capital in the process of seeing what he can do in the way of making cheap and good motor cars and selling them by the million. A skillful surgeon may work early and late to save lives with little thought of monetary reward. Habit, love, hate, ambition, pride, display, service, rivalry—all these and dozens of other motives move men to the carrying on of business activity, in the course of which they help bring about the organization of society whereby we all are fed and clothed and sheltered and provided with the countless services that we enjoy. But the business measure of success in realizing these ambitions is, roughly speaking, the profits that are produced, and in this sense we may speak of capitalistic society as being dominated by the profits motive.

Though we grant that many motives animate the businessman, just as they animate everybody else, we shall not be far wrong in considering the desire for profits the motivating force in small individual business enterprises. The multitudes of farmers and small businessmen carry on their work primarily as a means of making profit. To be sure, they grow corn and sell groceries, but the necessities of the business situation make them think of these activities as incidental to the primary purpose of making money.

The pursuit of profits, which is the dominant feature of small-scale business activity, is no less the ruling principle of the large-scale business carried on by our mammoth corporations, even though the profits may not go, as they do in the individual business, to those who make the decisions. Any business has to be made "profitable" as a condition of continued existence, and the yardstick by which success is measured is the yardstick of profits. The directors and executives of most large corporations own a comparatively insignificant proportion of the stock, and consequently receive, themselves, only a trifling part of the profits that are distributed to the stockholders as dividends. Nevertheless, their reputations are bound up with the organizations they serve and rule, and they are under a relentless pressure to show profits. Profit-making thus plays a no less important part in the running of the steel corporation than in

the conduct of a farm or a filling station, even though no one connected with a great corporation works directly for profits. Everybody who has a hand in carrying on its activities, from president and general manager to the humblest office boy, gets his pay in the form of salary or wages, the amount of which usually varies only in indirect and remote relation to profits.[4] The people who individually receive the profits made by corporations are the stockholders. Even they receive only such part of the profits as the directors think it wise to distribute in dividends.

In general, we assume that a man or a corporation will make greater profit by making more goods or performing more services; but if he can increase his profit by reducing his production, we expect him to do so. Otherwise he may end in the bankruptcy court. Bankruptcy is the alternative to profitable operation.

When we speak of *the* profits motive as *the* motive force in capitalism, common sense bids us note not only the extraordinary variety of motives that animate men in their everyday affairs but the difference in the way the desire to make profits works in individual and in corporate business. Common sense suggests a further consideration. The appeal of the profits motive animates but a small proportion of the workers who unite to produce our annual flow of goods and services. The businessman—the enterpriser—responds to this incentive; but the vast body of mankind work for wages, not profits. When it is said, as it was at the beginning of this section, that private profit is the motive which keeps the machinery of capitalism running, it is the return accruing to the businessman that is meant, not the wage of the employed worker. It is also to be remembered that the desire for gain was not invented by the capitalistic system. In any economic order there are men in whom the lust for acquisition is strong. The peculiarity of capitalism is that under it this love of gain is not regarded as inimical to social well-being but is considered an agency of progress.

5. Control through Prices · Capitalism, as has been pointed out, is a system in which production is directed by the decisions of large numbers of separate businessmen, each endeavoring to make profits for himself or for the organization which he runs. Such direction is not a capricious control at the whim of the businessman. At peril of his business life he must run his business profitably, and his profits are governed by the structure of prices within which he works. Be he corner grocer or railroad president, he is subject to this control by prices which, as we shall see later, serves to tie our millions of little and thousands of large independent enterprises into an orderly relationship instead

[4]This statement ignores instances of bonus additions to salaries, sometimes the result of large profits.

of leaving them a chaos. The businessman might be able, as far as technique goes, to make synthetic rubber at a dollar a pound, but he could not do it except at cost of business suicide as long as natural rubber could be imported from the East Indies or Brazil at ten or twelve cents, unless indeed a benevolent government could be persuaded to impose a duty of several hundred per cent on the imported product. And in our intricate system an attempt at such persuasion would encounter the almost insuperable opposition of the automobile makers, whose costs would be increased by such a duty.

Under capitalism the limits of possible conduct are thus set by the system of prices which control the activities of the businessman. Those prices, in turn, are set, on the one side, by the desire and ability to pay of a hundred and forty million consumers, who divide their limited income among the bewildering variety of material goods and services that compete for their favor. On the other side they are fixed by the decisions of all the millions of businessmen, who somehow by their independent action collectively determine that this year there shall be turned out four million automobiles and three hundred and fifty million pairs of shoes and no one knows how many tons of lipstick and seventy million hogs and thirty-six million copies of the *Saturday Evening Post* and uncounted hours of radio entertainment and so on through the endless goods and services that will actually constitute the output of the American economy during the year.

It is something of this sort that is contemplated in the vague assertion that prices under capitalism are controlled by competition, and that prices control the action of the businessman. Taking prices as they are and will be, as far as he can forecast them and perhaps to some extent control them, the businessman lays his plans and executes them, thereby in turn helping to create a new price situation that again will serve to direct the business of the future. The whole process appears vague and blind, yet the price scheme, with all its imperfections, is the essential controlling feature of our existing capitalistic system, which determines the production of each industry and the relations among the different industries. The imperative of profits expresses itself in the language of prices, and the businessman governs himself accordingly. Any business, to continue, must show a necessary minimum of profits; and since profits depend upon prices, we are justified in saying that our system is controlled by prices.

Another form of economic organization calls for mention here, since it is not capitalism, nor is it collectivism as commonly understood. That is the organization of co-operatives, to be considered more fully in Chapter Forty-one. These may be said to constitute an economic system within the capitalist system. Most of them are voluntary groups of consumers united to provide

themselves with the goods they want. The members of the group are both owners and customers; and production and marketing are carried on for use, not profit. For the most part, the groups have no desire to remake the social system within which they operate, but are bent on meeting some practical and immediate difficulty. In England, where the movement began in 1844, there are now some nine million members. In the Scandinavian countries they are also wide-spread and have exerted a considerable influence on the working of the capitalistic system within those countries. In our own country their growth has been less rapid and their influence has been less potent. Nevertheless, even in our own country they constitute a check on the operation of the profits motive.

Government and Capitalism

Even a superficial examination of those economic systems which we have been accustomed to call capitalistic makes it clear that nowhere do we find pure capitalism as described above. The development of business organization and power itself has modified enterprise almost beyond recognition. With the growth of vast monopoly control by means of the swollen corporations and the international cartel, free enterprise and competition become highly questionable terms. Private property, also, is a completely different thing when it consists chiefly of shares in a remote business. Control by prices, when many of those prices are no longer the prices brought about by competitive action, is not the control conceived of in an earlier capitalism. With these changes in the form and working of enterprise itself are to be found changes in the relation of the government to business. As was said on an earlier page, in no country is there a system of complete laissez faire, if by that we mean an entire absence of government regulation. Indeed, in the most extreme example imaginable, short of anarchy, the function of the government would still be an important one. It is only under the aegis of the state that property rights exist at all, that free contracts can be enforced, and that competition can work, protected from practices which would soon destroy it. The role of the state here is to prevent the self-interest of some of its members from working harm to others. To enforce competition or to protect consumers it is frequently necessary for the state to regulate prices, thus greatly modifying the control, through prices, of pure capitalism. And despite the fact that private ownership of productive goods is the hallmark of our system, public ownership is accepted in many fields, as, for example, in government-owned and government-operated post offices, municipal transportation systems, state-owned railways, state lumbering industries, state housing. Some such illus-

trations of government activity are to be found in every capitalistic country in the world. Our economic system has not become socialistic because we prefer to have publicly owned highways, nor has it ceased to be a system of private enterprise because railroad rates are subject to the regulation of the Interstate Commerce Commission and the milk sold by farmers must meet standards set by an agency of the government.

The conclusion seems to be that no matter what they were in the past, capitalistic countries today are hybrid systems in which public and private enterprises together provide the national income. The latter operate at private risk and for private profit; the former, for the most part, have some purpose other than profit. Many of our sharpest political as well as economic controversies arise from differences of opinion as to what we want to have done by private enterprise and what by the government.

Summary

We describe American capitalism, therefore, in the first place as an economic system having a highly developed machine technique, with all that that implies in the way of country-wide and even world-wide specialization, division of labor, and exchange of products. It is a system in which production goods in general are privately, not publicly, owned, being the property of individuals or of corporations. It is a system of free private enterprise and competition. The owner of capital or the man who can induce others to trust their capital to him gets the power, under our legal system, to exercise a wide measure of freedom in deciding what shall be produced and how. Labor control is exercised through the wage system. The laborer has legal freedom, and the conditions and the pay of labor are determined by a contract between employer and employee. In making his decisions the businessman is guided primarily by conditions of profitableness, and the pursuit of profits is not incorrectly thought of as the motive power that drives the machine. The conditions of profitableness, in turn, depend essentially on price relations, that is, on comparative prices and costs; and the system of prices as a whole ties together all the units of the economy and directs their operations, so that price is in reality the central fact of our economic system. Such a system is often spoken of as anarchical or uncontrolled, by contrast with the "planned" economy of a state like the Soviet Union. In reality, as a fairly brief consideration of the facts will disclose, the active director of production is controlled under the one system no less than under the other, only he is controlled by different forces and mechanisms. The study of economics concerns itself largely with the examination of such controlling forces and mechanisms.

Communism and Capitalism

A brief comparison of communism and capitalism in the above particulars may be of help in an understanding of their importance. As it is being worked out in the Soviet Union, communism seeks to attain a no less highly developed machine technique than our own, with a corresponding specialization, division of labor, and exchange of products—all characteristics of modern industrial life. For private ownership of production goods, however, it substitutes practically complete public ownership. For free private enterprise and competition it substitutes a planned economy, in which the ultimate decision about what is to be produced, and how much and where and how, is vested in a central planning board whose members have no personal stake, so far as their income goes, in the result. The individual establishments have the task of creating their part of the planned production. They may exceed or fail to reach their assigned quota, or they may do it at a greater or less cost than that expected; but in any event their activities are carried out as part of a centralized plan for the entire production process. Whatever decisions and choices are made by those who direct the individual establishment or industry must be made within the limits imposed by the plan as a whole. The central plan in the communist system thus takes the place occupied in ours by the scheme of prices. Furthermore, and highly important, while all sorts of methods, many of them practically identical with those used in our capitalistic organization, are employed to stimulate efficiency in production, those methods do not include the making of profits. The collective farm or the factory cannot make profits for individuals as our corporations make profits for their stockholders. As far as possible, profit-making is ruled out of the system.

Theoretically all economic activity is carried on not for private benefit but for the benefit of the group or the state. This difference in motive constitutes the basic difference between the two economic systems and explains many of the differences in their activities, but it must be remembered that both systems have as their goal the creation of income. The controversy between the adherents of the differing systems does not concern the goal but the better way of achieving a goal common to both.

CHAPTER TWO

The Meaning and the Goal of Economic Activity

As was implied in the first chapter, the economic organizations and institutions of any society largely determine the character of the activities by means of which its members "earn a living." It is the living which is ultimately important—the goods and services produced for man's use—not the organization or the activities. Economic organization is not an end but a means to an end, the end being goods and services. Even with this statement we are not satisfied but must look further. Goods and services, in their turn, are not ends produced for themselves alone, but are created that human beings may achieve a rich and abundant life. Man is the end, and an examination of the economic system carries the student eventually to a consideration of the kind of people who operate the system and are in a measure formed by it. The nature of the goods and services, their abundance or scarcity, and their availability to the mass of mankind help to determine the nature of the men for whom they are produced. More than this, productive activities themselves are important influences fashioning the nature of men. No modern economist has stated this with greater understanding than Alfred Marshall:

"For man's character has been moulded by his every-day work, and the material resources which he thereby procures. . . . For the business by which a person earns his livelihood generally fills his thoughts during by far the greater part of those hours in which his mind is at its best; during them his character is being formed by the way in which he uses his faculties in his work, by the thoughts and the feelings which it suggests, and by his relations to his associates in work, his employers or his employees."[1]

Only if we keep the goal of economic activity, whether it be individual or social activity, clearly before us will our study move in the right direction. Understanding of the purpose of economic endeavor will also provide us with a test to be applied to the innumerable organizations and activities, mechanisms and controls, which together make up the subject matter of economics: Do they forward this purpose or do they in their actual working obstruct it?

[1]Alfred Marshall, *Principles of Economics* (Macmillan & Company, Ltd., 8th ed.), pp. 1–2.

The Problem of Terminology

Before we attempt to carry our consideration of means and ends further we shall do well to make the acquaintance of a few of our tools, those words which most frequently appear in the writings of economists. Appreciation of the full significance of many of these terms must wait upon greater understanding of the doctrines of economics as a whole, but a preliminary examination of economic language will help us to avoid some useless fumbling and unnecessary misconceptions. Economics deals with everyday words like "wealth" and "income" and "utility" and "value," which everybody uses freely and thinks he understands. Two difficulties immediately arise. First, as appears on the most cursory examination, these everyday words are used by everyday people in an extraordinary variety of senses. Hence it is necessary at the outset of our study to agree on the exact meaning that for our purposes we shall attach to the most important of them; otherwise we shall not be speaking a common language. Take a single example. Which is the wealthier man, a retired farmer owning a farm worth $30,000 and living quietly in a country village on the $1500 a year rent that he gets from the tenant of his farm, or a successful lawyer living in an expensive apartment in a city and owning nothing except his household furniture and his Packard, but enjoying an annual income of $20,000 from the practice of his profession? The answer depends entirely on the meaning we attach to "wealthy," and neither answer is "*the* right one." We must agree on the meaning of our terms and must use them consistently in the agreed sense. It is important that the agreed sense of each term shall be as close as possible to the everyday nontechnical acceptation of the word, provided we can discover any such acceptation.

Here a second and more subtle difficulty arises to plague us. Not only are the everyday words like "wealth" and "income" used in everyday speech in a wide variety of senses, but the everyday things like wealth and income, usually thought of as quite simple and comprehensible, turn out in fact to be complex, diverse, and hard to understand. If, therefore, we try to seize the central idea behind one of these words and thenceforth to use the word consistently in that sense, we incur the danger of making ourselves misunderstood in common speech. If we give sharp definition to a concept, we sometimes find ourselves using an everyday word in a definite, special sense that may make our language almost meaningless to one who has not acquired our special vocabulary. If an economist were to say that a year's rent of a house is at bottom the satisfaction one gets from living in it for a year, the ordinary listener would be likely to tap his forehead and ask the address of the nearest hospital, though the economist was trying only to get at the reality under-

lying a man's willingness to pay a money rent. The economist must use ordinary words in definite senses. Yet his words must make sense in a world where they are loosely employed to cover vague thoughts and indefinite meanings. The natural scientist has little of this difficulty, since he uses a jargon wholly incomprehensible to all save specialists like himself. He can therefore take it for granted that he is not misunderstood, because he is not understood at all. The economist has no such refuge; his words are the words of the market place, but his ideas, if they are to be worth anything, must transcend, at the same time that they embrace, those of the market place.

The student of economics has, then, a double problem. He wants both to think exactly and to talk comprehensibly and comprehendingly with other persons. To accomplish this double end, it is necessary for him first to define precisely (in thought, not simply in words) certain basic concepts and to agree with others on the sense in which the words representing those concepts are to be used; and secondly, to establish in his own mind the relations between the agreed-on meanings of those words and the various and often indefinite senses that they have in everyday speech. Definition, thus conceived, is no merely formal process. If done in a formal way only, it is worse than useless. Performed with a proper understanding of its purposes, it is a highly interesting and illuminating task.

Utility and Goods

Economic activity is devoted to the production of things wanted by human beings and not supplied by nature or not supplied in sufficient quantity to meet the want. Since human wants are the motive force of economic activity, definition must start here. Anything wanted by anybody has *utility*, as the economist uses the word, whether it is supplied by nature alone or whether it calls for man's efforts. In economic language utility means simply wantedness, and carries no ethical significance whatever. The want may be a good or a bad one from the standpoint of moral judgment; the thing wanted may be quite useless or even injurious in the ordinary acceptation of those words. That makes no difference; if it is wanted, then under appropriate conditions someone will go to work to produce it, and economic activity will consequently ensue. The utility of the economist is a different thing from the utility of the moral philosopher, or from that of the man in the street who vaguely divides things into the useful and the useless; yet even slight reflection will disclose relations between all three concepts. Without more ado we shall henceforth use the term "utility" in the economist's sense, and in that sense alone.

Before leaving the word "utility," we may point out in preliminary fashion

an idea of much importance that we shall have occasion to develop in Chapter Twelve, namely, that the *value* of anything depends first on its utility and secondly on its scarcity. What a man is willing to give for anything depends on how much he wants it, that is, on its utility to him. Our whole theory of value, constituting one of the most important parts of economic study, is only a development of this simple principle. It explains the exchange values that are consequently established between goods produced under differing conditions and at differing costs in a society like ours.

Anything that has utility is to the economist a *good*, or, as it is sometimes called, a utility. A good may be a bad thing physically, like a habit-forming drug, or morally, like a salacious book. Nonetheless it is just as truly a good (in our sense of that word) as is a loaf of bread or a Bible. The distinction between a good in the economist's sense and a good in the variety of other senses in which the word is used calls for careful discrimination.

Free and Economic Goods

We implied above that not all goods are produced by human energy. As a result of the operations of nature, a few, and among them some of the most important, exist in some places and at some times in such quantities that everyone has or can have all he wants of them. Such constitute free goods. We define as a *free good* any good which as a result of the unaided operations of nature exists at any time and place in such quantities and under such conditions that everyone has all he wants. We commonly say that such a good is free because no one would give anything for it. Actually it is free because everyone has, or can have, all he wants; therefore he would give nothing for it. Air and light are two of the most important and the most desired of all goods. Under normal circumstances in most places air and, almost everywhere during the daytime, light are so plentiful that everyone has all he wants of them. They are free goods. Night falls; nobody has light, and the people of a continent gladly pay for it. Great works are installed for the purpose of producing it. Every means of illumination, from the primitive pine knot to the modern electric-light plant, testifies eloquently that light is a free good only so long as everyone has all he wants.

As the economist uses the term, a free good must therefore have two characteristics. It must be *abundant*, in the sense that everyone has, or can have, all he wants of it; it must be *costless*, in the sense that it has not cost labor but is the free product of nature. Actually these two qualities can be reduced to one, for goods cannot be abundant in our sense of the word unless they are the free product of nature. Human labor is scarce, and the moment human labor

is necessary to bring a good into existence that good must also be scarce. Free goods are, then, abundant goods, made so by the unaided operations of nature. Air, light, fresh running water on the lower slopes of mountains, wood in a densely timbered and sparsely populated region inaccessible to a timber market, fish in remote lakes and rivers where there are few men to want them, game under similar conditions, wild products of every kind wherever they are so plentiful by comparison with the wants for them that everyone can have all he desires for the mere taking—these things are examples of free goods. The growth of wants by the simple increase of population may transfer any of them at any time and place from the category of free goods to that of economic goods (to be discussed shortly) by bringing it about that the particular good ceases to be abundant. A summer community grows up along a mountain brook where water has been free, and the question of water rights immediately arises. During the first two centuries of white occupation timber on the stump was a free good over almost all of the present United States. With the growth of population and demand for timber good stumpage became valuable, and its value continues to rise. Free goods are outside the scope of economic study, but the growth of wants is forever making free goods into economic goods and thus bringing them into our subject matter.

The distinction is no mere formal one, but has basic significance for social study. Some free goods are of the highest importance and usefulness, and the more richly any society is endowed with such goods the better off are its members; but we give no consideration and no effort to such goods, because we are not obliged to give any. We do not economize sunshine and fresh air, nor do we plant trees in a land of unlimited forests; scarce goods, however, are used with care, and the limited energy available in any society is expended in increasing such of those scarce goods as promise the greatest return for the effort employed in turning them out. For free goods we will give nothing in exchange, because we can have all we want without effort or the giving up of anything. For scarce goods we will expend effort or make exchanges. This is what we mean when we say that scarce goods have value.

Production and Value

Since the capacities of nature are limited and men's wants seem to be without limit, not all goods can be free. It is literally impossible that in any region all goods should exist in quantities so great that all men can have all they want of all of them. Scarce goods are of two kinds, those provided by nature and those which are man-made. Land and timber and coal do not exist in quantities sufficient for men to have all they desire. The fortunate owner may

charge others for the use of the land, or collect stumpage on the timber, or a royalty on the coal. Yet he had no part in producing the land or the timber or the coal. Nature provided them. The second class of economic goods men themselves produce, working with the resources which nature supplies. Goods belonging to the first group are costless—as are free goods—but they are scarce. Goods belonging to the second group come into existence as the result of economic activity.

All economic activity is devoted to the production of value. On first sight we may seem to be saying that all economic activity is devoted to the production of scarce goods, and for the most part it is, but there is here an important difference. Making economic goods more scarce may increase their value, that is, increase the amount that will be given for them, and we shall find before we have completed our study that some economic activity is directed toward reducing the amount of a scarce good and thereby increasing its value, rather than increasing the amount. A simple illustration will make the difference clear. Suppose six small factories in an isolated community make chairs which find sale at a very low price. One of the owners conceives the idea of buying up the other five factories, closing them, and offering to the public only one sixth as many chairs as formerly but at a much higher price. Here we have economic activity devoted to making chairs more scarce. All the implications of the illustration we are by no means ready to follow now, but in our discussion it is necessary to bear in mind that there are important limitations to our assumption that the process whereby members of a society make a living is always one of increasing the volume of the scarce goods by which we live.

Thus far our discussion of production has made no reference to our social institutions, our laws, our politics, our education, our manners and customs, our morals, and the whole body of ideas with which we work—all ultimately related to the arrangements that condition production. Consideration of these is not necessary here, because the distinction between free goods and economic goods has no relation to them. Whatever the social arrangements, not all goods can be free. In any economic system, wants are the source of economic activity; and to meet those wants nature supplies some goods in niggardly degree, and men's own efforts are chiefly devoted to increasing the goods they desire. It is not necessary at this point to specify the character of the control of production. Whether economic goods are produced by private enterprise or by private agencies supported by endowments or by government activity, they are still economic goods. There is, however, an important difference between private production on the one hand and that of governments and noncommercial private agencies on the other. Private business, since it must finance itself out of the sale of its product, cannot systematically

turn out products whose sales price does not cover their money costs of production. Governments and noncommercial private agencies, on the contrary, are at liberty to increase production to the point where the price realized does not cover the money costs incurred, making up the deficit out of taxes, income from endowment, or contributions from interested persons. The "education sold" to its students below cost by an endowed institution affords an illustration. In all such instances the producer, for reasons he considers good, deliberately increases his product with the express purpose of lowering its price to the consumer below the point that would be possible if production had to be financed exclusively out of receipts from sales.

Occasionally governments carry this process so far that the goods offered seem, at first glance, comparable to free goods. They exist in such amounts that, if not everybody, certainly large numbers of people have all they want of them. "Free" elementary education and all the numerous "free" services provided by modern governments to all their citizens upon demand are the outstanding examples. They are produced in such quantities that they command no price whatever, but their production entails costs just as truly as though those costs were met out of prices received. Evidently production in such amounts is simply an extension of the principle guiding government action described in the preceding paragraph. Production is now deliberately carried to the point where possible receipts from sale are reduced to zero, and the entire expense is covered by taxes. Such action results from considerations of public policy that lie without the purview of profit-making business. It has economic results of profound importance in withdrawing energy from the production of goods that could "pay their own expenses" and devoting it to the creation of others which, in the view of the persons controlling the government, are more important than those which would be produced commercially. Goods thus produced have come to be considered so important and so universally necessary that communities undergo great expense to provide them in amounts sufficient to meet a large proportion of the desires for them. Educational, recreational, and health provisions of many kinds are now furnished; and a movement is under way to increase the health services to be rendered without charge, just as elementary education is now provided. The citizen of the modern state gets more and more of his income "free." To give goods away, it should be observed, does not make them free goods. When a government provides services for its citizens "free," those services, even though abundant, are not free goods in our economic sense, since they required labor in production, and any good which demands labor can never exist in quantity sufficient to make of it a free good.

Because private enterprise, obliged to meet expenses out of sales, cannot

afford to push the production of any good to the point where it is free to the consumer, it is sometimes urged that capitalism is necessarily an "economy of scarcity," by contrast with something alluringly dubbed an "economy of abundance." The point involved is important, but it is not clarified by tossing words around carelessly in such a way as to suggest a mysterious possibility of making everything abundant. There is no such possibility. The only sensible question to ask is whether capitalism or some other system of organization offers the better promise (1) of producing the greater quantities of the goods that will be scarce under any conceivable scheme, (2) of producing those goods in desirable proportions, and (3) of producing an abundance of those particular products which it is considered socially expedient to provide without charge. A capitalistic society can do the last to whatever extent it is willing to tax itself; a pure communistic society could do no more as long as men continue to want more than they have. Notwithstanding the dreams of poets and prophets, even Utopia, when it arrives, will have an "economy of scarcity" if its inhabitants are men, and if they use the words "abundance" and "scarcity" as we have defined them and not in a loose fashion in which the words mean different things to different men.

If we are to see the economic process as it actually takes place, therefore, we must keep all four groups of goods in mind and see their relations to one another. They are, as we have seen,

1. Free goods, those produced by nature in abundance.
2. Economic goods produced by nature in limited quantities.
3. Economic goods produced by men's efforts at a cost which must, in general, be covered by the price which the users, or consumers, are willing to pay.
4. Economic goods produced by men's efforts, but in plenty because of social considerations which take no account of relations between cost and price.

The more numerous free goods are, the better off are those who enjoy them and the greater is the release of energy for the creation of goods that require labor. Free goods, however, do not demand of men any consideration or economy. Scarce goods produced by nature, like good land, mineral supplies, forests and water power, immediately become the subject of human calculation and are appropriated by either private or public agencies for economic purposes. Man-made scarce goods are the product of labor directly or indirectly applied to both groups of goods supplied by nature, which together we call natural resources. Man-made abundant goods differ from similar scarce goods only in that they have come to be considered so important socially as to be produced in abundance.

The productive process takes account of the last three groups; it is devoted, with the exceptions already noticed, to the increase of goods in the last two groups, private enterprise to the increase of goods in group three alone. The economic organization controls the productive process and the distribution of the produced goods. That organization as it exists in the United States today is, as pointed out in our first chapter, a system of capitalism based chiefly on private property and free enterprise; but, as has already been indicated, no small part of our product is turned out by government agencies subject to controls other than those that direct private enterprise. Our economy must therefore be studied as a whole; and while such study is properly devoted to the operation of free private enterprise, it must nonetheless consider at every turn the part played by government as itself a producing and distributing agency.

Consumers' Goods and Producers' Goods

All economic goods fall into two classes, which it is necessary to distinguish at the outset. *Consumers' goods*, whose creation is the ultimate end of the whole productive process, are those which yield satisfaction directly by being consumed. These are food, clothing, houses, pleasure automobiles, and, equally real though not material, services like those of the doctor, the entertainer, or the barber. A beefsteak disappears in a single act of consumption, while the consumption of a house may extend over a dozen decades, yet both are created for the final purpose of yielding satisfaction directly to the consumer, the steak by being eaten, the house by being lived in. By contrast, *producers' goods* are those which are used in the production of other goods, but do not themselves directly yield satisfaction to a consumer. They embrace such things as machinery, factories, offices, steam engines, garages, and cotton, iron ore, and other materials. They are used, and finally used up, in the process of production, and only later, at the end of that process, do consumers' goods emerge. We shall refer always to the utilization of producers' goods as use, of consumers' goods as consumption. Consumption yields satisfaction directly; use we assume does not. No matter how much pleasure is derived from watching wheels go round, the wheels are not revolved for the purpose of providing that pleasure.

Perishable and Durable Goods

One other classification of goods demands brief attention. Consumers' goods fall into two groups, perishable and durable. (1) *Perishable* consumers' goods, like food, yield up in a single act of consumption the services they

embody. (2) *Durable* goods, like houses and furnishings, cars, books, and similar products, on the other hand, embody a series of services which can be realized only in a series of acts of consumption, extending with some objects over many years. In between stand semidurable goods like clothing, which are nothing but comparatively short-lived durable goods. Producers' goods likewise may be divided into the same two classes. (1) The raw materials of each industry may be regarded as its perishable producers' goods, since in the process of production or fabrication they disappear as raw materials and reappear as finished products. (2) On the other hand, the buildings, the machinery, and the other equipment used in production are durable goods. The distinction between perishable and durable goods, as we shall discover in later chapters on distribution and business fluctuation, is of high importance in determining the course of production, exchange, and distribution, and the student will do well to give attention from the beginning to the grouping of industries into those which produce services and perishable material goods, on the one hand, and those which yield durable goods, on the other.

Services and Material Goods

The term "goods" conveys to most minds the idea of material goods, such as bread and shoes and motor trucks. Up to this point we have used it in this sense, but for our purpose we must get behind this simple notion. Since goods are goods because of their capacity to satisfy wants either directly or indirectly, the essential characteristic of material goods is not their materiality but their power to perform services by gratifying wants, and it is the services they embody that give them their character as goods. Such services are appropriated or realized only in the process of consumption of consumers' goods, as when we satisfy our hunger by eating the bread and keep our feet warm and dry by wearing the shoes, or in the use of producers' goods, as when we transport commodities by making use of the motor trucks. Material goods from the economist's point of view are actually nothing but embodied or stored-up services, to be appropriated later by consumption or use. When a material good is consumed or used it performs a service directly by gratifying a want, or indirectly by aiding in production, and it is the service or services embodied in it that constitute the real good in a material good. In fact, speaking from the point of view of consumption, we may assert that services are the only real goods.

Looking at the matter from the standpoint of production, however, we discover that the word "goods" must be used to cover both services and material goods. Economic activity, if it is to attain its normal end of gratifying

wants, must finally issue in services, that is, in real goods. The process of production, however, takes two forms. In one the end product, as we saw in the preceding paragraph, is a material good, which in a subsequent process of being consumed or used yields up the services embodied in it. In the other form, production is a direct creation of services which assume, for the most part, no material form and must therefore be appropriated by consumption at the very time (and usually the very place) of production. The teacher, the physician, the actors in a theater, the symphony orchestra, the railroad train crew, and hundreds of other workers turn out no material product at all. Instead, they produce services directly. One part of our producing mechanism turns out material goods; the other turns out services. In thinking of our economy as producing goods, therefore, we must use that term to include both material goods and services, and we shall employ it thus throughout our discussion.[2]

To recapitulate, we may say that *utility* is the quality of being wanted. Everything, material or immaterial, that has utility is a *good.* Some goods are free goods, some economic goods; some are perishable, some durable; some for the consumer's enjoyment, some for the use of the producer. A *service* is the satisfaction of a want, and to perform a service is either to satisfy a want directly or to satisfy it indirectly by aiding in the process of production. Services are performed (1) by human beings, usually with the aid of material equipment, and (2) by material goods, in the process of being consumed or used. *Production* is the process of creating utility embodied in services or in material goods. Hence, since material goods in being consumed perform services, all production is either the direct or the indirect production of services. Services are realized or received only in the process of consumption or use.

The Concept of Income

Having thus indicated the classifications of goods most important for our purposes, and pointed out the senses in which we shall use the various terms connected with them, we are now in a position to give meaning to the two concepts with which our study chiefly deals, namely, income and wealth. Our economy is a social system of producing and distributing economic goods, including both services and material goods. All services and perishable material consumers' goods, such as food, are consumed at the time of produc-

[2]No confusion will in this way be introduced into our thinking if the distinction drawn in the present and the preceding paragraph is kept in mind. The student will frequently encounter in economic works the phrase "goods and services." The writer in these instances is employing the word "goods" to cover material goods only.

tion or shortly thereafter, but durable consumers' goods, like houses, and producers' goods, like machinery, yield up the services they embody only over a period of time more or less long. A community is rich in the significant sense if it enjoys a large per capita flow of services. If it has rich natural resources and human energy, and if that energy is effectively applied to those resources, the result will be a large and continuous output of personal services and material consumers' goods. The latter, in turn, will yield up in consumption the services they embody, and in consequence the members of that society will enjoy a large flow of services per head. Such a flow constitutes the income of that society, and it is this flow of services that really makes a society wealthy, or, as the word by its derivation implies, weal-enjoying or well off. Without entering at this point on the terminological difficulty thus suggested, we must make it clear at the outset that income, as thus conceived, is the great preoccupation of the economist, that the economic system controls the production and distribution of income, and that the economic process gets its significance not from a piling up of material goods constituting wealth, as that term is defined, but from the provision of a recurrent series of services which meet the recurrent wants of human beings as they arise. Once this idea of income is understood, it will be perceived that our whole machinery of production exists for the social purpose of increasing the flow of income. To produce goods is in the last analysis to increase the flow of services by which men live.

The income of an individual is thus at bottom the flow of services or want satisfactions that come to him during a given period of time. This we shall call, indifferently, his psychic income, consumption income, or income consumed, the first being definitely the best term. The services he receives are either (1) personal services directly performed for him by human beings or (2) services performed for him by material goods (in the process of being consumed by him). Both these classes of services are realized only by consumption. His income from such material goods during a day consists of the satisfactions he derives from the perishable goods, like food, that he consumes during the day, and from the day's consumption of the durable goods he enjoys, like the house he lives in or the automobile he drives, which goods may last for years. In any adequate accounting his psychic income likewise includes (3) the satisfaction he derives from the doing of his work—a large and much neglected element of income in the life of most people, despite the tradition that work is in itself disagreeable and undesired. The psychic income of an individual accordingly consists of three and only three classes of services, and the rational end of his economic activity, as far as it is self-regarding, consists in the maximization of such income. The psychic income of a society consists of the sum total of such individual incomes, and the rational social

end of economic activity consists in the maximization of the social psychic income. That man is in reality richest who enjoys the largest psychic income; that society is richest whose per capita psychic income is the largest.

The student will find it profitable to pause at this point and consider briefly the relation between the term "income" as here defined and as used in ordinary speech. A man's income is commonly thought of as the amount of money he receives during a given period of time, such as a year. This the economist calls his *money income.* With that money the receiver is supposed to buy, and largely does buy, the goods he most wants. These goods the economist calls his *real income.*[3] The satisfactions derived during the year from the consumption of these goods is supposed to constitute his *psychic income.* As we shall show in some detail in Chapter Twenty-four, which deals with distribution, the relation between the amounts of the three kinds of income received by a man or a society during a particular year is by no means the simple and direct one suggested in this paragraph. Even though that relation cannot be elaborated at this point, the student should be on the alert to note the connection and the lack of connection between the receipt of money income and the consequent receipt of real and of psychic income. Though the statement is made above that the end of economic activity is the maximizing of psychic income, the student will find that his further study is concerned with real income or money income, not psychic income. The reason for this is not that the economist regards them as more important but that they can be measured, while psychic income defies measurement. He works on the assumption that, in general, the larger the real income the larger the psychic income. Thus a study of real income is a means of approaching to some knowledge of psychic income, the goal of economic activity. It is essential here to grasp the basic idea of income, since the whole study of economic processes deals ultimately with the production of goods and their distribution to the persons who derive income from their consumption.

The Concept of Wealth

We are now prepared to examine the idea of wealth and the use of the word "wealth" in economic discussion. In the earlier treatises economics, or political economy, was sometimes defined as the science of wealth or the science that

[3]We have already indicated that the ultimate reality of income consists not in goods but in the flow of services arising out of the consumption of goods. Nevertheless, we shall for reasons of convenience follow current economic practice in the use of the term "real income" and such related terms as "real wages," meaning the goods that money will buy.

deals with the production, exchange, and distribution of wealth. Wealth was conceived of as practically synonymous with what we have defined as material goods, and only gradually did the distinction between material goods and personal services and the relation between material goods and the services they yield attain sharp definition. Meanwhile the economists established a convention of defining *wealth* as consisting of those things that possess materiality, utility, and scarcity. Since the convention is firmly established and since we need a single word that will cover material economic goods and nothing else, we shall accept this definition, though the difficulties involved in any attempt to use it consistently in that sense alone are almost insuperable. However, it is not wealth thus defined with which economists are primarily concerned. Even when they use the word in such expressions as "the production, exchange and distribution of wealth" they are really interested in the production and distribution of a flow of satisfactions, that is, income, not in a stock of material goods. We have said that that man is richest who enjoys the largest psychic income, not necessarily that one who owns the largest store of wealth. Yet we customarily and correctly assume that a store of wealth will provide its possessor with such income; hence we tend to identify one with the other. Many of the forms of wealth ownership constitute claims to income; and increase in wealth generally implies an increase in income, though an old American expression described the too-ambitious landowner as "land-poor." The goal of economic activity is an increase in social income; one method by which this is accomplished is by increasing wealth. In emphasizing the primacy of income, therefore, and in pointing out the vague and shifting way in which the word "wealth" is used, even by economists themselves, we are not minimizing the importance of the wealth concept as we have defined it. We are simply putting the student on notice that in his reading he will find the words "wealth" and "wealthy" quite as frequently referring to the income as to the wealth concept.

A brief reference to the statistical work of our government will perhaps serve to clarify further the two concepts. The Bureau of the Census collects information about the value of certain kinds of tangible property in the United States, such as real estate and personal property assessed for taxation. If we had a complete inventory of this sort covering all the material economic goods in the country, we should have a statement of the wealth of the United States. Such estimates are attempted from time to time. On the other hand, the Department of Commerce currently estimates the total income produced and the total income paid out by all the industries of the country, and each year it presents summary figures for the year. These estimates cover both material goods and services produced and distributed. Such

estimates, it is plain, have no direct relation to the estimates of wealth, at given points of time, made by the Census Bureau. Yet the greater our existing stock of producers' goods at any time, the greater is likely to be the income produced by industry during the succeeding period; and the greater our stock of consumers' goods, the greater the flow of services they will yield during that period, irrespective of production.

Income as the Economic Goal

The present chapter has been designed solely to help in giving sharpness to the student's thinking by making clear at the outset the goal at which, in a rational social view, the economic process aims. That goal is the maximization of the psychic income of all the members of the society studied, not the piling up of wealth. The pleasures and satisfactions of living are by no means wholly dependent on the economic goods at people's disposal and on their activity in producing them. Nonetheless, such goods constitute the means by which people live, and the production of these goods occupies practically the whole working life of men. Our analysis should help clarify the student's understanding of what in fact constitutes such goods. It should make clear the fact that no increase of wealth, as we have defined it, whether in the form of money or of other material goods, is in itself an aim of intelligent social effort. It should suggest forcibly that no economic system is an end in itself, but that every scheme of economic organization and every piece of economic machinery must be judged on the basis of its success in forwarding the provision of an adequate and continuous flow of income, created under such conditions that work itself, as far as possible, shall constitute a part of the income stream.

Once having gained some idea of what the goal of production is in any economic order, whether here and now or in the remote past, we are ready for a rapid survey of the major changes which have come about in methods of producing income since medieval days. Though the purpose of economic activity has been ever the same, organization and technique have passed through many changes, some of which are briefly outlined in the next chapter. From our hasty and inadequate glance at the past, as presented in Chapter Three, we should turn with increased understanding to a consideration of the requisites of present production: the natural resources, the labor, and the capital, which are united under the guidance of the businessman to create the flow of income which we enjoy today.

CHAPTER THREE

The Development of Production

THE better to understand our present economic system, we need to gain some idea of how men in the past satisfied their wants and how from earlier means and methods we have arrived at our existing complicated economic organization. To meet their needs men have their own strength and intelligence and the resources of nature. This is true in the simplest and most stagnant community of which we have record and in our own complex and constantly changing society. Gradually they have learned to make better use of their own powers and of the possibilities of nature. They have practically never been solitary workers, and the activities of the individual have always been both helped and restricted by those of the group. Since our purpose here is not to trace the history of human life but to apprehend our own productive organization, we do not linger over the centuries in which man gained his food by picking nuts or berries, by digging roots, or by killing small animals with stone or stick, or those in which he learned the use of fire or iron or acquired the manifold crafts of primitive man. Nor do we study how men satisfied their wants in ancient China or Babylon or Greece. Some reference to primitive economic life has already been made in Chapter One. In the earliest stage of economic development man relied upon nature to supply his wants, with little knowledge of how to control nature. He took what he found. Though his wants were simple, hunger and cold must often have been his companions. From this rude existence developed our modern economic life. Despite the importance and the interest of this slow change, it must here be neglected. For our purpose the most useful history is the story of economic development in England between the eleventh and the twentieth century. By the earlier period the people of England were living a settled economic life, largely though not entirely self-sufficient. During the centuries which followed, this self-contained agricultural country was transformed into the industrialized state of today, with its high degree of specialization, its dependence on commerce, its intricate machine technique, and its bewildering financial structure. The complicated institutions and activities of the England of the twentieth century bear small resemblance to those of the eleventh; yet the creation of income was their purpose then as now.

Eleventh-Century England

The eleventh-century workers lived on and from the soil, which they cultivated with the simplest implements. They produced not only their own food but their clothing, their rude furniture, and their tools. Before the Norman Conquest there were peasants in England who held land from lords or bishops. In return for the use of these lands the overlords demanded service on their own home farms or demesnes. Units made up of such holdings and demesne lands, taken together, were called manors. There were also nonmanorial estates, the difference apparently being that such estates had on them no demesnes, and the lord received payments in products, not labor. There were likewise regions, of which we know little, where men dwelt in scattered homesteads, making a scant living from raising sheep and cattle. After the Conquest of 1066, feudal relationships, with their political and military as well as their economic implications, tightened, and economic life in parts of England took on a more orderly character. Because the record-keeping of the time was that of the manor, most of our knowledge of the period is of manorial organization, and we are in danger of exaggerating the extent and importance of that system. It is probable that more than half of England was nonmanorial. Even in the Midlands, where manorial organization was highly developed, only 60 per cent of the land was manorial as late as 1277, while the remaining 40 per cent was in nonmanorial estates or single homesteads. We must therefore bear in mind that when we describe life on the manor we are not describing the life of rural England as a whole. Further, while we speak of *the* manor, as if all manors were alike, in reality no two of them were precisely the same. They differed widely among themselves, but along with many differences there were certain common characteristics. Any single picture of the manor would correspond in detail to no manor, but might embody the chief features of most of them.

The Manor

The Norman manor, with its manorial court, provided a system for the administration of justice, provision for raising an army, and a social organization, as well as a means of livelihood, but our concern is chiefly with the manor as a way of life and of livelihood. The center of its life was the village, a half-dozen or more tiny thatched cottages of wood, rushes, or wattle, often scattered along a single irregular street or grouped about an open space. At one side of the cluster of cottages stood a stone church; at the other, a short distance from the village, a stone manor house occupied by the lord or his

representative. Near this was the demesne land. Probably not far from the cottages ran a stream, on which stood a small mill. Behind the cottages were sheepfolds, pinfolds, perhaps fruit trees. Farther away were waste and common lands and the great open cultivated fields.

In legal theory, after the Conquest all English land belonged to the king. Private property as we know it today scarcely existed. The king's land was entrusted to his followers, and they in turn allowed tenants to live on it and cultivate it. When, in 1086, William the Conqueror made his famous Domesday survey or inquiry, the cultivators could be divided into four classes: slaves, cottars or bordars, villeins, and freeholders. By 1200 the slaves had practically disappeared. The three remaining classes were distinguished by the amount of land they held, by the amount and character of the services and products they rendered to the overlord, and by their legal relation to the land. The villein was not at liberty to leave the land; theoretically, at least, the freeholder was. The son of the freeholder inherited the father's land; in theory, the son of the villein received the land as a new grant from the lord, who, in order to show that the succession depended upon his will, could at the time of such transfer exact the best animal owned by the tenant, a heavy imposition in a day when animals were both scarce and necessary.

The holdings of the cottars were from two to three acres, hardly enough to provide livelihood. For these plots they owed but little service to their lord and were free to eke out a living by selling their labor. The holdings of villeins and freemen were usually between twenty-five and thirty-five acres, in addition to small garden plots beside their cottages. They had also the right to gather hay in the meadows, to graze their livestock in the common pasture, and to take fuel from woodland and wasteland.

The cultivation of the demesne land, the lord's personal estate, was largely the responsibility of the villeins, who must work upon it two or possibly three days a week, with additional days at springtime and harvest. The freemen owed less service to the lord. They were not called upon for regular week work, though they occasionally rendered boon work, that is, work at seedtime and harvest. They did, however, have to make to the lord specified payments in kind. We have stated these differences sharply, but in actual fact villeins and freemen shaded into each other so gradually that it is difficult to draw sharp lines between them.

The terms of service were often elaborately detailed, and were no doubt frequently vexatious to any tenant eager to get on with his own work. Professor Heaton tells of a Gloucester holder of thirty-six acres who was obliged to supply his own labor and that of one man four days each week from September 29 to August 1. During the other two months he and his companion

must work for the lord five days a week. Their boon work was to "plow half an acre in winter, and again in Lent, and harrow it at seedtime; carry loads by cart to Gloucester twice a year; wash and shear sheep for two days; cart hay for four days; carry brushwood one day; do ten days' reaping at the lord's bidding, with two men; carry the lord's corn twice a week for four weeks; carry corn to the lord's grange one day and carry millstones for the lord's mill."[1]

The customary obligations, however, were not all on the side of the tenant. Custom determined the food and drink to be provided by the lord's bailiff, whose duty it was to see both that the workers accomplished the appointed tasks and that they received the appointed returns. In this exchange the balance of advantage was not always with the lord; for example, in 1307 Battle Abbey discovered that it was giving meals worth from five to seven pence, while it received from some villeins service worth only four pence.

Agriculture on the Manor

The system of agriculture that prevailed is variously described as the three-field, the open-field, or the strip system. Three great unenclosed fields constituted the arable part of the manor: one planted to wheat or rye; one to oats, barley, or peas; and the third left fallow. Each tenant held land in all three fields, but not in a solid block. Occasionally the demesne of the lord, instead of a consolidated area, was in strips scattered among the holdings of the villeins. The fields were divided into long narrow strips, each strip containing perhaps an acre and separated from the next by a ridge, or balk, upturned by the plow. The strips held by an individual tenant did not lie side by side but were scattered through all three fields. Such an arrangement made a certain amount of co-operation necessary, though it also demanded individual labor and individual responsibility. For the most part the villagers as a group, under a headman called a reeve, determined what and when to plant in each field, when to harvest, and when the fields should be opened to their livestock. They also selected those who were to act as shepherds or swineherds. In addition, the need for the work of animals forced common action. A villein might own one ox, but for some farm work at least eight were needed, and thus he was driven to dependence upon his neighbors.

This organization had undeniable advantages. We, accustomed to the mobility of the present, think of the serf bound to the soil as thereby enduring great hardships, but we might also consider that to a large extent the soil was bound to him. He could not leave his home, but he was assured of a home;

[1] H. Heaton, *Economic History of Europe* (Harper & Brothers, 1936), pp. 97–98.

meager as was his living, it was a certain living. Also, the system provided a labor supply to till the arable land of England, and it must have created a rude sufficiency for the retainers who surrounded the lord and furnished his fighting force. Agriculture on the manor was, however, far from efficient. Ignorance of fertilization or of scientific rotation of crops made it necessary to leave one third of the land always idle, and the strip system itself occasioned further loss of land because of the balk surrounding each strip. Moreover, on any working day the peasant must have spent many hours trudging from one of his strips to another. Too much of his working time went to the lord for him to give great attention to his own strips. The fact that decisions as to the crops which were to be planted were made by the group left to the individual little opportunity for the experimentation that was necessary if production was to be increased. Nevertheless, in spite of such handicaps, the industrious and intelligent tenants eventually surpassed their less thrifty neighbors.

The Development of Exchange

Our account of the manor has implied the self-sufficiency of its economic life, a self-sufficiency in part the result of the simplicity of the needs of its inhabitants, in part imposed by the difficulties of transportation. In spite of such difficulties, however, there was a surprising amount of carriage from one manor to another. To the lord the manor represented both a source of food supply and a storehouse for food. In the numerous instances where he held many manors it was not unusual for surplus food accumulated at one to be transported to another where there was scarcity, or for some one manor to serve as a central depository for the group. In addition to grain, such commodities as millstones, salt, cloth, wool, wood, and fish were sometimes carried from manor to manor, on foot or horseback or by cart or boat. Thus groups of manors, rather than single manors, became the economically self-sufficient units. But neither the single manor nor the group could supply all its own needs; iron, salt, knives, tar, hemp, and flax were to the peasants necessaries even in their simple life and work. Our earliest manorial records show the existence of an exchange of skins and cloth for salt or fish or iron, and even for spices and ornaments brought from distant lands. By the thirteenth century there was already a sale of grain large enough to demand attention. To the sources of such surplus supplies we shall return later. For the moment we are interested in the fact that the sale of surplus grain suggests that there must have been buyers of food at no remote distance from the manors.

Thus far English life has been depicted as entirely rural, as if no towns and

cities existed. It is true that most of the people lived in tiny villages with their arable land lying about them, yet there were scattered throughout England larger centers of population, many of which have become the cities and towns of the present day. The origins of such centers are various; some of them are obscure. Camps where Roman troops had once been stationed, fords where roads crossed streams, fishing villages, abbeys or other religious centers, ports through which passed the merchants who maintained trade between England and the Continent, each of these became a gathering point for population outside manorial organization. Every such group must be fed by the near-by agricultural land. Here is to be found the connection between town and country which makes it impossible longer to ignore the development of towns. The sale of surplus food from the manor made possible great changes in manorial custom; the existence of such surpluses made the town possible. With the growth of towns went the development of exchange. It is obvious that specialization of occupation and exchange of products cannot go far until some men have a source of food supply other than their own efforts, as well as a market for the products of their own labor. The agricultural surplus provided the first necessity; the growing towns, and in a small measure the agricultural population outside the towns, provided the second.

The developing exchange centered in the towns. Shoemakers, woodworkers, artificers in brass and iron and leather and tin settled where there were possible purchasers. Once a week, or perhaps twice a week in the larger towns, a market brought together the people of a small area. Here the craftsmen took their wares, and here food products from the countryside were offered for sale. In larger towns specialized markets developed, such as the cloth market of Leeds and the herring market of Yarmouth. Markets came into existence by grant from the king or an overlord, and payment for the privileges of trade provided a revenue to the maker of the grant. They were hedged about with many restrictions, among others the provision that they must be at least six and two-thirds miles from each other.

In the earlier markets producer and consumer met face to face, but as population increased there rose a class of merchants who bought goods in one market to sell in some other part of England. Such traveling merchants found their greatest opportunities in the fairs, which were larger markets, held but once or twice a year and bringing together traders from a wide area. A fair might last for three or four days, or in rare instances for several weeks. The privilege of holding a fair, with the resulting revenue from the licenses, rents, and customs which were paid by those who traded there, was, like the privilege of the market, granted by the king, or less frequently by an overlord, to favorites, to towns, or to religious houses. The fair of St. Giles at

Winchester belonged to the Bishop of Winchester, Sturbridge Fair to the lepers of Barnwell Hospital. During the fair trade in the town ceased, and it is easy to see that local traders might sometimes resent its existence, especially since foreign merchants (those outside the local community) then enjoyed privileges of trade which were denied to them at other times. During the Winchester fair all private trading was forbidden not only in the city of Winchester but for seven leagues around it. The avarice of the bishops succeeded in adding to this a restriction on Southampton trade and in extending the duration of the fair from three to twenty-four days.

Merchant and Craft Guilds

The need for system and control wherever men live together was met on the manor and on the nonmanorial estates by the force of immemorial custom, in the markets and fairs by an infinitude of minute regulations imposed by the king or by the owner of the privilege. In the towns the merchants themselves, who, it is to be remembered, were also the craftsmen, drew together to protect their common interests and to see that the trade was carried on in seemly fashion. The resulting organizations, known as merchant guilds, were fairly common in England by the middle of the twelfth century. They included butchers and bakers, coopers and dyers, carpenters, masons, and other small craftsmen. Thus it will be seen that though these groups were called merchant guilds, their members were not specialized as merchants but were craftsmen who sold their own products. Their common problems related to the buying and selling, not the making, of their goods, and their rules for the most part pertained to problems of trade, not to those of craftsmanship. Members of the guild might on market days or at other times buy and sell, retail or wholesale, without payment of dues or customs. Foreign merchants might not trade at all within the town (except at fairs), or if they traded must do so only under special license and with a payment of customs, often heavy ones, for the privilege. Weights and measures, quality of goods, methods of competition, were all controlled by the rules of the guild, which, in true medieval fashion, added to its economic functions those of brotherly kindness by requiring it to care for its members in sickness and death and to provide for their widows and orphans when left in poverty.

As the population of the towns increased there was a corresponding increase in the number of workers of a single craft needed to supply the wants of the town. A half-dozen shoemakers, becoming conscious of common interests which the merchant guild as a whole did not share, might quite naturally draw together and formulate rules for their own craft, while the merchant guild

still regulated matters of trade which concerned the entire group. In some such fashion numerous craft guilds came into being, and by an almost imperceptible process the craft guilds became the controllers of production, and the merchant guilds declined in importance. For a time they retained some control over trade, but gradually their functions became more nearly those of friendly societies.

The craft guilds, whether brought into existence by the volition of the craftsmen or by the town government, which sometimes called together those who practiced a craft and directed them to form a guild, developed all-embracing rules. They controlled the number of apprentices that a guild might take, the rigorous training through which an apprentice must pass, the process by which he became a journeyman and then a master craftsman. The master craftsman was likewise hedged about with rules. The guild attempted to protect its members not only from the competition of outsiders but also from that of inferior, unscrupulous, or over-energetic members of their own fraternity. Night work was forbidden lest, because of poor light, it be poor work; work on Sunday was forbidden to prevent the irreligious from gaining economic advantage over the religious; the quality and price of the product were prescribed; each master was given a fair chance at the market but was rigidly prevented from attracting to himself the customers of others. In addition, an attempt was made to draw sharp lines between the jurisdiction of the various guilds and to prevent one from infringing on the activities of another. The shoemaker must not tan leather; the cobbler must not make shoes. Here was undoubtedly one of the difficulties which led to the ultimate destruction of the power of the guild. Enterprisers whose activities cut across guild lines eventually became strong enough to maintain their position and to defy guild rules. In theory, guild regulations protected the producer from unfair competition and assured honest workmanship and fair terms of purchase to the consumer; in practice, they created privileged groups, which must often have enjoyed their privileges to the injury of those outside the group.

The student's first impulse, in examining the medieval guild, may be to find here an analogy to the modern trade-union, but such an analogy is thoroughly misleading. The trade-union is essentially an organization of employed workers for the purpose of bargaining with employers. The guild was an organization of craftsmen, who collectively controlled entrance into their craft and conditions of production and of sale of the goods. Adequate training, good workmanship, fair competition, orderly production, were the aims of the guild. The apprentices and journeymen can scarcely be compared to modern employees, for the apprentice was on his way to becoming the

journeyman, then the master, and the master himself was under obligation to provide technical training to his apprentices, who usually lived, as well as worked, with him. Further, he received fees, sometimes large ones, from the apprentices, instead of paying them wages. Journeymen, who had completed their apprenticeship but had not yet qualified as masters, were, to be sure, recipients of wages, and there are instances of journeymen uniting to increase their wages or better their conditions, but such unions were short-lived and ineffective.

The emphasis has here been on the economic functions of the craft guild, but the student should remember that it, like the merchant guild, regulated the moral, religious, and social life of its members, and that it provided for them and for their families in sickness and death, as well as regulating the production and sale of their goods.

Changes in the Manorial System

It is unthinkable that town life could have become the highly organized and highly specialized society of the craft guilds in the midst of an unchanging agriculture. True, looking from this distance back to the eleventh, twelfth, thirteenth, and fourteenth centuries, we see little change in the rural life of England; yet no system made up of living men is wholly static, and even during these years there were many cracks in "the cake of custom," which were gradually to widen until the cake fell apart. One of these cracks is to be discerned in the method by which the lord's demesne, the manor farm, was worked. While the week work and boon work of the villeins supplied labor, such labor was not always efficient, nor was it always timed to meet the need for it. At some periods more was supplied than was wanted, at others less. Moreover, it is probable that there were always manors on which the customary labor was in excess of the need, others on which it was insufficient. On the manor were laborers, younger sons or cottars, from whom efficient service might be obtained for hire if money were available. A manor might be better run if the lord could substitute money payments to hired workers for the customary service which was his due. Or the lord might wish to spend more time at court, with all the extravagances involved, or to go on a crusade for which he must acquire costly equipment. Such desires enhanced the value he placed on a money revenue and diminished that of age-old service. Though the lords were usually the instigators of changes whereby the tenants bought their freedom from perpetual service, the thrifty and industrious villeins who could get the necessary money were ready to meet the wishes of their lords. From the thirteenth century, manorial tenants were, for the most part,

eager to "commute their services," as the process was called, in order to devote their entire time to their own holdings and sell their possible surplus products in a local market. In this there was, actually, nothing startlingly new. On nonmanorial estates, where there were no demesne farms, villeins and free tenants already paid in money or in kind. Now the money payment was spreading to the manorial estates. When such a sum was paid it was not paid as a rent for the land in the modern sense but as a relief from service, a payment in lieu of the labor which the tenant, according to immemorial custom, owed to the lord. Wherever service was commuted, if the lord's lands were to be cultivated he must find hired labor and pay a money wage. The commutation of services suggests one source of the grain surplus to which reference has already been made. Tenants freed from the necessity of cultivating the lord's demesne might by cultivating their own holdings more assiduously reap larger harvests. Under manorial custom they were prohibited from selling their animals but were allowed to sell their grain. Any increase above their own needs would therefore find its way to a market if there were one. In addition to the commutation of services there was another change, so far unmentioned, the substitution of payments in money for payments in kind. Obviously such an arrangement freed for sale grain which had once been claimed by the lord. The sale provided the money for the payment to the lord; it might also provide additional sums which would purchase desired goods not produced on the manor. Thus two modifications of customary procedure made possible the development of an exchange economy in which money was presently to take a major role. It is worth noting that prices became a matter of importance as soon as services were commuted into money payments, labor obtained by wage payments, and surpluses sold in a market. Landlords receiving a fixed money return suffered during the gradual increase in prices between 1150 and 1400, while tenants with products to sell stood to gain from this price movement. This chapter is not the place to follow in detail price changes in England and the effect those price changes had on English economic life, but it may be remarked that the upward movement of prices in the sixteenth and seventeenth centuries was so great as to be described as the price revolution. This drastic increase seriously threatened the economic well-being of some classes, reduced real wages by one half, and caused the enactment of much remedial or regulatory legislation.

The Enclosure Movement

We have already suggested, and we cannot too strongly emphasize, the importance of change in the period between 1000 and, let us say, 1400.

Any picture of medieval society which seems motionless is a false picture. Early rifts in ancient custom—commutation of services, the substitution of money payments for payments in kind, and the production of a surplus for sale—have been described. A further modification of manorial form was to change the entire system of English agriculture and the very face of the English countryside, that process which is known as *enclosure*. The word "enclosure" has come to be an omnibus term including several different developments, and it will be well for us to see at once exactly what these were. First, the word may refer to those instances where the lord took to himself tenants' holdings, adding them to his own demesne. Such action was not ipso facto illegal. As earlier stated, whenever a villein died, the land, theoretically at least, reverted to the lord and was then granted to the heir. If there were no son, the lord might simply refrain from granting the land again. If there was a son, the lord might make exactions so severe that the incoming tenant could not meet them. The line between the legal and the illegal was a narrow one, difficult or impossible to establish in the manor courts, often presided over by the lord himself.

Secondly, the word applies to the inclusion in the lord's own land of waste and common formerly open to the tenants. Here the rights of the tenants were nebulous, but their loss often worked great hardships and probably created more ill-feeling than did the actual absorption of holdings by the lord.

Thirdly, the word refers to a process of exchange of strips among the tenants themselves, in order to consolidate their own holdings. This, the student will readily see, tended to remedy some of the weaknesses of manorial agriculture.

Fourthly, the word occasionally covers the leasing of holdings by the more prosperous tenants from their less successful neighbors.

All these changes had one common effect, the greater consolidation of land holdings. Whether the lord was adding to his own land or the tenants were transforming their strips into solid blocks, the result was an area which could be enclosed by hedges. This substitution of an enclosed area for the open fields of the manor has given the name "enclosure" to the prolonged and highly complicated processes by which the very foundations of English agriculture were transformed. The movement, here summed up in a few paragraphs, actually extended over many centuries. From the fourteenth century it continued well into the nineteenth. As has been implied, the changes were sometimes accomplished within the restrictions of custom, sometimes by violations of custom. The later enclosures were carried through by the agreement of those concerned and under parliamentary sanction.

Though the process was continuous the rate of enclosure varied, and the

driving force or forces behind the movement differed in the early and later centuries. English landlords by the fourteenth century had discovered a foreign market for wool. This made the most desirable use of land sheep-raising. The lord's demesne, once arable land worked by tenants or hired laborers, became enclosed land on which flocks of sheep grazed. The transfer of land from crop to pasture gave to the lord a profitable product for sale. Desire to increase his flocks furnished an incentive for enclosing wasteland and common as well as tenants' holdings. The substitution of sheep-raising for cultivation also enabled the lord to dispense with agricultural laborers. When in the middle of the fourteenth century the plague known as the Black Death reduced the working population on some manors from a third to a half, and lords found hired labor scarce and expensive, sheep-raising freed many of them from the need of a large labor force.

The economic importance of enclosure in the first three centuries of the movement is to be found chiefly in the growth of the export trade in wool, in the decreasing demand for agricultural labor, and in the consequent movement of population to the towns. It brought with it another innovation. Landlords sometimes found it more profitable to lease their farms to their more substantial tenants, or perhaps, as we have said, one tenant leased his land to another. Thus there grew up a land market, not for the buying and selling but for the leasing of land. The existence of the English farmer of a later period was the result of the possibility of leasing large blocks of land. Even today the English farmer customarily does not own his farm but leases it on a long-term lease. That enclosure frequently worked great and often unnecessary hardships to the rural population is clear, but the literature of the period probably exaggerates the extent of the hardships and fails to give due weight to the benefits which accompanied the consolidation of land holdings.

Trade and Early Trading Groups

It should be apparent by this time that it is impossible to understand any one development of English economic life taken alone. An examination of the enclosure movement leads us at once to the wool trade between England and the Continent. There is little that is more surprising to a reader first making some acquaintance with the medieval world than the amount and the geographical extent of its interregional trade, and there is little more difficult of comprehension than the institutions by which such trade was carried on. European traders took the lead in opening English commerce. By the eleventh century merchants from Cologne were to be found in London, apparently

under royal protection. Two centuries later foreign merchants had their own hall in that city, and before the twelfth century was over, in return for loans to Richard I, they had received exemption from English customs and the right to sell their goods at English fairs. The Cologne merchants had been joined by groups from other German cities, chiefly Bremen, Hamburg, and Lübeck, and for two hundred years they dominated English trade with the Continent, bringing in iron and iron goods, fish, and salt and exporting English wool. Their London settlement, including houses, warehouses, wharves, and a guild hall, came to be called the "steelyard" (*staalhof*), and they were known as Merchants of the Steelyard. Flemish and Italian merchants had also found their way to England, bringing the products of their regions and carrying away English wool.

It was not to be expected that the export of wool would be left in the hands of foreigners indefinitely, but it is impossible to tell at what date English merchants came to supplant foreigners in handling the wool trade. That trade was for long more largely a matter of public than of private concern. In addition to being the chief source of royal revenue, it was a coercive weapon in the hands of the ruler whenever he wished to bring to his terms one of the cloth-making countries of Europe. The bewilderingly complicated and constantly changing arrangements of the trade in the fourteenth and fifteenth centuries are often to be explained by royal needs rather than by any influences germane to the trade itself.

In brief, it became the custom to insist that all wool be sent to a "staple" port or ports. Here resident English merchants, privileged by home or foreign rulers, sometimes by both, received the wool and paid the duties on it exacted by the English king. These merchants were known as the Merchants of the Staple. For a long period the staple port was Calais; occasionally it was moved to some other Continental city or to England itself; at times it was abandoned altogether. Though other articles were handled by the Staplers, wool was their mainstay, and with the decline of the wool trade they too declined. By the middle of the sixteenth century they had lost all importance to English commerce.

The decline in the export of wool was the result not of a decline in the production of wool in England but of an increase in the making of English cloth and a consequent desire to keep the raw material at home. While the Merchants of the Staple were managing the export of English wool in Calais or some other staple port, another group of English merchants, first in Bruges, later in Antwerp, specialized in the sale of English cloth. These were the Merchant Adventurers. This group, in competition with the Merchants of the Steelyard, the Merchants of the Staple, and the Hanseatic League

located in the cities of North Germany, gradually grew strong enough to threaten the export of wool on which the Staplers depended, to induce Elizabeth to withdraw her favor from the Merchants of the Steelyard, and to gain secure footing for themselves in the North German cities, the very centers of the Hansard merchants. The organization of the Adventurers closely resembled that of the craft guilds earlier described. They were a fellowship of cloth merchants, engaged in foreign trade, each transacting his business independently, with individual capital but under common rules. We have here the first and one of the most important of the so-called regulated companies of England, which were in the beginning guilds made up of merchants engaged in foreign trade. Such regulated companies, however, must not be confused with the *merchant guilds* earlier described, which, it will be remembered, were made up of craftsmen of many kinds, who sold their own products in their own towns. As the strength of the Merchant Adventurers increased, so did their appetite for gain, their desire to keep other merchants from joining their company, and their efforts to exact greater privileges from the Crown. The inevitable result of the attempt to exclude from the foreign cloth trade all persons not Merchant Adventurers was the loss of their monopoly grant. Near the end of the seventeenth century the cloth trade in the area of the Adventurers was opened to all traders.

The Trading Companies

The beginning of the sixteenth century offers an excellent point at which to view English development up to that time, before we turn to the changes of the next four centuries. Though subsistence farming or farming for local markets was still the prevailing agriculture, the possibilities of commercial agriculture were manifest. The greatest single product was wool, which was the chief source of profit to the landed interests, as well as the basis of English foreign trade, either as wool or as woolen cloth. The power of the craft guilds was declining; new industries never restricted by rigid craft rules were growing up. Adventurous mariners were by their explorations preparing the way for the extraordinary expansion of trade which marked the seventeenth and eighteenth centuries.

Up to this time England had been trading with countries whose civilization and degree of economic advancement were similar to her own. A regulated company, such as the Merchant Adventurers just described, served well enough for such trade as this. With the English seamen of the late fifteenth and the sixteenth century voyaging wherever a vessel could sail, the world grew larger. Trade to distant and unknown lands offered attractions to the

adventurer and the profit-seeker alike. Such trade, however, carried the trader outside the established channels of commerce and beyond the protection of his own country. The voyages in pursuit of this trade were long, the expenses great, the dangers unknown, and the profits uncertain. Few merchants were able singly to incur the cost of a venture to India or the East Indies, but small groups of partners, pooling their resources, might and did undertake the risks. Their capital was further augmented when they could obtain, as they frequently could, royal contributions from sovereigns as eager as their subjects to share in the gains. The earlier partnerships lasted for the duration of a single voyage, at the completion of which principal and profit were distributed to the partners. Next, partnerships for terms of years, perhaps three or six, were tried. On the expiration of the term a distribution of spoils was made and the venture was over. From these temporary partnerships it was but a short step to the joint stock with a long-term or permanent investment of capital, the management vested in a governor, a subgovernor, and a group of assistants. The joint-stock company, sanctioned by Crown and later by Parliament, existed throughout the seventeenth and eighteenth centuries side by side with the more loosely organized regulated company already mentioned. In the former the trade was company trade with a common capital raised by the purchase of stock; in the latter the trade was individual trade on individual capital, carried on under common rules. The East India Company and the Royal African Company were two outstanding examples of the joint-stock company, though it may be remarked that the first began as a regulated company and the second eventually became a regulated company. Along with trade monopoly the joint-stock companies were granted the right to control, and in a measure to govern, the areas in which they traded, and the right to exclude the traders of all other countries from those areas. It is easy to see that when England and France and Holland each granted such monopoly privileges to their own companies, trouble was certain to follow. In India the East India Company established English claims in the face of rivalry among Portuguese, Dutch, English, and French; in Africa the Royal African Company maintained the claims of England against Danes, Swedes, and Brandenburgers, as well as French and Dutch, all of whom were equally anxious to guard their own trade relations. In the West Indies each nation jealously protected its own trade while it seized every opportunity to encroach on that of its rivals. Commercial supremacy was achieved by England at the cost of many years of warfare. Meanwhile the commercial expansion was stimulating home industry, on which rested the trade of the widening English markets. Domestic prosperity rested on commerce; commercial prosperity depended on domestic industry.

Agricultural Improvements

The tumult over enclosure had largely ceased by the seventeenth century, and the enclosures of the next centuries often resulted from the efforts of large leaseholders rather than from the desires of avaricious landlords. The amount of waste and common land which did not add to food supply had already been reduced when, in the seventeenth century, a further attempt was made to add to the arable land. English and Dutch capitalists undertook the drainage of four hundred thousand acres of fenland in eastern England. The original promoters had long been dead before their costly project was completed, but by the middle of the nineteenth century the eastern marshlands of England had been transformed into fertile agricultural land. In other ways, also, the amount of usable land was being increased and production improved. Rotation of crops and the use of fertilizer freed farmers from the necessity of allowing one third of the land to lie fallow. From the Continent, where agriculture had long been in advance of English practice, new grasses were brought which improved the meadows and provided better summer pasture, while the growing of turnips yielded a winter food for livestock. Not only was the livestock better fed, but it was also better bred. The "roast beef of old England" was the result of a new interest in both the breeding and the feeding of cattle. Sheep ceased to be valued for their wool alone but were prized for the quality of the mutton as well. The study and practice of an improved agriculture became fashionable. Books and periodicals preached the new methods, landlords encouraged them, and able and ambitious farmers applied them. Jethro Tull, Charles Townshend, known as Turnip Townshend, Robert Bakewell, and Coke of Norfolk were leaders in experimentation and in breaking down old habits. At the end of the eighteenth and the beginning of the nineteenth century Arthur Young, a tireless traveler though not himself a successful farmer, recorded the results of the work of others throughout England, Ireland, and France. So remarkable were the improvements of these centuries that they are often described as the agricultural revolution, a description which does no harm if we remember that they were revolutionary only in the sense of being of great importance. There was nothing at all sudden about them.

The Putting-Out System of Manufacture

We left English industry organized in craft guilds whose rules controlled most production outside agriculture. When we examine the guilds as they were in the sixteenth century, we find their control much weaker. In a measure

they had contributed to their own downfall by their very confidence in their strength. To keep their numbers small and their power great they had imposed exorbitant admission fees and in other ways had made entrance difficult. In their attitude to the highly skilled foreign craftsmen in England they had been arrogant and uncompromising. These policies served only to increase the number of artisans who worked outside the guilds, who evaded the rules governing apprenticeship and journeymen, and who offered an increasing competition to guild work. In addition, new industries, not organized under rigid craft rules, were springing up.

As the number of workers and of industries outside the guilds increased, new devices for organizing the production and marketing of goods gained a foothold. The new forms which industry took are called the domestic or the putting-out system. The appropriateness of these names we shall see as we examine the production of this period. England's most important industry, the making of woolen cloth, was the industry in which guild control first broke down. With the increase of enclosure it had become more difficult for tenants to gain even their accustomed scanty subsistence from the soil. What more natural than that they should add to their meager income by spinning or weaving in their spare time?

The number of these part-time country workers, who had gone through no period of apprenticeship and who obeyed no guild rules, steadily increased throughout the sixteenth century in spite of the efforts of the guilds to limit their competition. Here was an opportunity for enterprise that shrewd and ambitious workmen soon recognized. The work of the country weavers could be collected and disposed of in the neighboring markets or in the cloth market of London itself. The merchandising of the cloth became a function entirely separate from the making of the cloth. The merchant, by supplying the spinners with wool and the weavers with yarn, by collecting their product, and by finding the market, relieved the artisans of the risk and made possible a larger production. Such a merchant, though at first probably a craftsman, soon gave up his craft to devote himself entirely to the distribution of wool to spinners, yarn to weavers, cloth to finishers, and the finished product to market. He had become a "clothier," or merchant capitalist, who paid for the raw material and the work and received his return when the goods were sold. The spinners and weavers worked in their own cottages, at their own convenience, furnished their own looms, and were paid for their work. The payment was for the most part not exactly a present-day wage, even a piece wage, for it included payment for the service of wheel or loom as well as for the labor of the workman. However, if the merchant capitalist wished to increase his returns, he acquired looms, which he rented to weavers. Some such

method of production was applied to every stage of the woolen industry, and rural England became an extended manufactory, making cloth which merchant capitalists supplied not only to English markets but to those of remote foreign lands.

One of the characteristics of this organization of industry was its flexibility. There was little that was rigidly controlled by rule or custom, and the result was that the putting-out system took many forms besides the one which we have described. In the north of England, for instance, workers were gathered together in small workshops, where the weaving and finishing were done. Similar organization developed in other industries. Traders imported iron that the cutlery masters of Sheffield transformed into wares which were then collected and sold by the traders. Hosiers gave out materials to knitters who came to them; later they received the finished goods; or they passed out materials to a traveler, called a bagman, who went from cottage to cottage distributing them and later collecting the knitted product. No matter how much the form varied, the merchant capitalist, as middleman, always occupied an important place, relieving the worker of risk by giving him a specified payment and himself finding the market. By the end of the seventeenth century the English merchant had become a "new species of English gentleman." The volume of products increased under this developing capitalism, production preceded demand rather than waiting on order, as was commonly the practice in the guild, and the distance between producer and consumer lengthened.

With industry thus organized, the advantages of one further step seem obvious. To bring workers into a central shop or factory would save time and would make possible more effective supervision of the work, to say nothing of the opportunities it would offer for a greater division of labor. We have mentioned the fact that in northern England the clothier had gathered his workers together in a single building. Indeed, occasional examples of centralized production are to be found at a surprisingly early period. A sixteenth-century ballad tells of one Jack of Newbury who brought together six hundred cloth workers—men, women, and children. Such instances are exceptional. For the most part the textile manufacture remained a scattered industry until the end of the eighteenth century, yet modern research has shown a by no means insignificant tendency toward centralization even two centuries earlier. There were certain industries which if carried on at all must be operated in large units. Mining, smelting, shipbuilding, and sugar-refining were, almost from their beginnings, centralized industries, calling for large capital to be used in a single plant. Saltmaking and glassmaking, though originally widely dispersed, were by the end of the seventeenth century largely centralized.

The Cotton Industry

During the seventeenth and eighteenth centuries the woolen industry maintained its position as the basis of English prosperity and therefore deserving of parliamentary protection, but a rival was steadily gaining strength. Lancashire weavers, by combining cotton and linen, were producing a textile called fustian. This was light and cheap and became a favorite article of export to West Africa and the slave plantations of the New World. When the woolen interests in 1721 procured the passage of an act forbidding the wearing of printed or dyed calicoes, fustians were not forbidden under the law, and the making of printed fustians spread rapidly. Throughout Lancashire a vast domestic industry grew up, financed by Manchester, Liverpool, and London merchants who were unhampered by the traditional customs and vested interests of the woolen industry. Just when the first piece of pure cotton cloth was made in England it is impossible to say, but once the prohibition on wearing cotton was repealed (1774) the extensive and flexible organization of the fustian manufacturers and merchants could be applied at once to the production of cotton. In this industry were first applied the late eighteenth-century inventions which remade the manufacture of textiles the world over.

The Industrial Revolution

These inventions belong to the period commonly called the Industrial Revolution. The term "revolution" used here must not be thought to imply a violent upheaval, any more than it did when it was applied to agricultural changes. The development of machine technique, the improvements in transportation facilities, the increased knowledge of metallurgy, and the improvement of the steam engine, which mark the last forty years of the eighteenth and the beginning of the nineteenth century, constitute no break in the continuity of economic development. It would be difficult to discover any single characteristic of this era which had not a beginning at some earlier period. From the sixteenth century inventions had modified industrial technique, markets had expanded, scientific knowledge had increased, wage payments had become common, capitalistic organization was not unknown, specialization had steadily spread. To insist that none of these developments was new in the last years of the eighteenth century is not to minimize the importance of that era. About 1760 the pace of economic change unquestionably quickened. Each change brought a host of others in its wake. The impact of new knowledge, new methods, and new machines destroyed old forms of activity and of thought. Many of the perplexing economic problems of the twentieth century are the heritage of the speed with which economic life was remolded after 1760.

1. The Textile Industry · In 1733 John Kay, an ingenious Lancashireman, invented a shuttle which could be pushed or shot from one side of the loom to the other instead of being passed from hand to hand. Its use made possible the weaving of broadcloth by a single worker and speeded the process of weaving. There was, however, nothing to be gained by faster weaving unless more yarn could be provided. In the same year that Kay's flying shuttle was successfully used, two inventors (Paul and Wyatt) began experimenting with roller spinning. Commercially successful roller spinning was not accomplished until Richard Arkwright in 1769 patented the so-called "water frame," whereby cotton was drawn out and twisted by being passed through pairs of rollers turned by water power. Meanwhile Hargreaves, a Lancashire weaver, had worked out an idea whereby a single spinning wheel was transformed into a multiple wheel, capable of spinning eight threads at once. Crompton, another Lancashire worker, combined the principles embodied in Arkwright's water frame and Hargreaves's spinning jenny into a spinning machine called, because of its hybrid nature, a mule. All the essentials of modern mule spinning were incorporated in Crompton's invention. With the increase in cotton yarn which followed, more weavers or faster looms were necessary. Cartwright's loom (1789), the first successful effort to meet this need, left much to be desired. It was long before the power loom displaced the hand loom in the cotton industry; still longer before the machine product equaled that of the hand weavers in the woolen industry. With the change in technique and the increase in the amount of production the cost declined. By 1812 the cost of producing a pound of cotton was about one-fourteenth what it had been before 1779, and cottons, theretofore available to the rich alone, could be used by the mass of the English population.

2. The Steam Engine · Occasionally the early textile machines were operated by hand or animal power, but for the most part they were moved by water, and every available stream soon turned the wheels of some small mill. Had this continued, industry might have been dispersed throughout the rural districts of England instead of concentrating in towns and cities, but at almost the same time that the new machines were remaking the cotton industry, an improved steam engine was liberating those machines from dependence on water power. Newcomen's steam engine, by means of which water was pumped from the coal mines, had been in use since the first quarter of the century. This engine was so wasteful of heat that it was too expensive for use except where fuel was cheap, and it had rarely been operated away from coal mines. The improvements, at the end of the century, made of it a steam engine which, wasting far less heat and motion, turned the shafts and

wheels of nineteenth-century industry. James Watt, a maker of instruments for Glasgow University, beginning repair work on a Newcomen engine in 1763, soon saw the possibility of making a much more efficient model. His first patent was taken out in 1769, and by 1800 over three hundred Watt engines were at work in Great Britain. It is not to be inferred that there was an immediate abandonment of water power for steam. As late as 1830 a third of the motive power in cotton manufacturing still came from water; other textiles were even slower to adopt the new source of energy. Yet from the moment of its first use Watt's engine had great economic significance. As we have said, industry could now be located away from falling water, and the modern industrial city was possible. Also, the improved steam engine used for pumping in the mines made coal so cheap a fuel that all industries dependent on it were able to reduce their costs and expand their production.

3. Iron and Steel · For the making of machines iron and steel were necessary, and for iron and steel a new fuel was essential. Charcoal, the fuel first used, had threatened exhaustion of the wood supply in Stuart days, and any expansion of the iron industry waited upon the discovery of a substitute. This discovery came in the first decade of the eighteenth century, when Abraham Darby the elder found that coke could be used to smelt iron. Further experiments perfected the process and greatly reduced the amount of fuel needed. The series of improvements for which the Darbys were responsible made possible a great increase in the quantity of iron produced; other changes in method improved the quality of the product. Cast iron, as it came from the blast furnace, was brittle and would stand little strain. In 1784 Henry Cort invented a method of stirring (or puddling), whereby more of the carbon was burned out and the resulting iron was much stronger. A world of iron machines was now possible, but the end was not yet. The greater strength of steel, which may be loosely described as iron with less than 1 per cent of carbon in it, was well recognized, but until the so-called Bessemer process was discovered in the middle of the nineteenth century it could not be produced in large quantities. With the invention of the Bessemer converter the age of iron passed into an age of steel.

4. Improvements in Transportation · The student may remember that in writing of the manor we referred to it as comparatively self-sufficient because of the difficulty of transporting goods. In succeeding pages we have followed the development of an economy which rests almost entirely on exchange. The increase in the division of labor implicit in the changes which we have just described and the great increase in the quantity of goods produced indicate an enlarging market dependent upon improved means of transportation.

These means we can no longer ignore. Until the eighteenth century the transport of goods in England was in large part on the rivers or by pack horse or cart floundering along the well-nigh impassable roads. The cheapness of water carriage led first to an improvement of the rivers, then to efforts to supplement natural waterways by canals. In 1761 a canal from Worsley to Manchester, a project of the Duke of Bridgewater whereby his coal was carried to market, reduced the cost of coal in Manchester one half. Encouraged by this, the owner extended his canal to the Mersey River. Coal now could be carried from Worsley to Liverpool by water at one sixth of the former charge for freight. All over England projects joining rivers and canals were set on foot. In the sixty years which followed the building of the Bridgewater canal water transportation had almost removed heavy traffic from the roads, had reduced freight charges, and had given all parts of England easy access to the sea. During the same period the work of Telford and Macadam produced a practicable hard-surfaced highway, and travel and carriage by horseback gave way to the use of coach and wagon. Travelers need no longer fear being mired in bad weather, speed was greatly increased, and the cost of road transport was sharply reduced.

Waterways and highways, however, were soon to be displaced as major agencies of transportation by the railroad, a combination of tracks and a steam engine to pull carriages along the tracks. Many experiments preceded the successful runs on the Stockton-Darlington road in 1825 and the Liverpool-Manchester line in 1830, but these two unquestionably demonstrated the feasibility of the new method of transportation. The opposition of road and canal builders, of coach owners and innkeepers, was not sufficient to check the advance of the railroad. By the forties England was covered with a network of lines which reduced other means of carriage to an unimportant place. With coal in abundance, with the steam engine to transmute it into power, and with the cheaper methods of producing iron and steel, the railroad was the last step needed to transform the world into one vast market for English manufactures. Their dominance in that market was scarcely threatened until the seventies.

Industry and the State

The nineteenth century in England may be studied as an age of machine technique, of the factory system, of highly specialized industry; of increased production, enlarging markets, growing interdependence, and rising scales of living; of the dominance of capital, of complex business organization. It may be studied also as a transition period, in which earlier controls exercised by the state broke down and new relations between the state and the economic activities of its people were being shaped. Thus far this chapter has attempted

to trace the changes in methods of production which brought about the technique, the volume of production, and the business organization of the present, with minor attention to changes in methods and purposes of control. In concluding this rapid survey we turn for a brief glance at such changes, since they constitute an integral part of any productive system.

We have already emphasized the force of custom as a regulator of economic life on the manor, and the strictness of guild control in early town industry. The breakdown of the guilds and the rise of the putting-out system paralleled the growth of national strength, and state regulation of industry first supplemented, then supplanted, guild regulation. From the fifteenth to the eighteenth century the prevailing belief was that power to control industry not only rested in the state, but was to be used by the state to increase its own strength and further its own ends. This doctrine is called "mercantilism."

One of the great needs of most states was precious metal, the medium by which armies could be maintained. A country which contained no mines must obtain its treasure by the pillage of cargoes bound to other countries or by the sale of goods for gold. The latter method demanded an excess of exports over imports. Much of mercantile regulation rested on this single necessity. To this end imports must be limited in amount and regulated in character; production and exports were encouraged, but were under careful control lest the wrong things be produced or exported; consumption was scrutinized, lest the people consume luxuries brought from abroad in such quantities as to call for payment in gold rather than in exported goods. It is not necessary to study all this regulation in detail to understand its purposes, to see to what lengths it might be carried and how eventually it might, and almost certainly would, hamper the very industrial growth it wished to foster.

Recognition of the strangling effects of mercantilism naturally brought a reaction against state control. The teaching that if industry were let alone to work out its own best interests the best interest of the whole would be achieved, which displaced mercantilism, was welcomed by rising industrialists. When Adam Smith propounded this *laissez-faire* philosophy in his *Wealth of Nations*, he tempered it with many modifications which the industrialists who acclaimed his doctrine soon forgot. They often forgot also that the very title of Smith's work bore witness to the fact that to him the purpose of industry remained the wealth of the nation, not that of the individual. While his book marks the beginning of an era in which the benefits of free enterprise were emphasized by economists and lauded by enterprisers (save when they desired aid from the state), it does not usher in the practice of laissez faire. No state, not even the United States in the heyday of nineteenth-century enterprise, ever practiced a complete laissez-faire policy. In England the mercantilist restrictions

were gradually repealed, but restrictions of other kinds replaced them. These new restrictions were in part an inheritance from the old regulations, in part the outgrowth of industrial changes.

The development of the factory acts will serve to illustrate the evolution of modern restrictive legislation. It was obviously the duty of a state to maintain order; hence the medieval measures to prevent violence, rioting, and attacks on property. Then came recognition of the fact that poverty, since it was a source of disorder, was of great import to the state. The earliest of the long series of English "poor laws" were intended to punish the idle who were able-bodied or to force them into industry, on the assumption that their idleness would lead to disorder. Gradually the laws imposed upon localities the responsibility of providing work for this group and of alleviating the misery of those unable to work. To the latter belonged pauper orphans who, under the law, were charges of the local government. This was the situation when production moved from cottage to factory and women and children who had worked in the homes moved to the factories. Parishes burdened with the charge of pauper children welcomed the opportunity offered by the need of the factory for child labor to apprentice such children to manufacturers, thus relieving themselves of all further responsibility. Child labor was no new phenomenon, but under factory production its evils were accentuated and were brought into the open where they could not be easily ignored. The flagrant abuses led to the act of 1802, the first measure that attempted to regulate the work of children in factories. It was passed as a part of the "poor law" and affected pauper children only, but from it stemmed a long series of factory acts, limiting the freedom of contract of both employer and employee in the interest of the employee. Protective legislation, thus begun as part of the "poor law" of Great Britain, which, in turn, had begun as legislation to prevent disorder in the state, is now accepted as necessary not only for children and young people but for adults as well, and has been extended in many directions not conceived of at the beginning of the nineteenth century.

The great difference between the economic legislation of the mercantile era and that which has developed since 1800 lies in its purpose. Mercantilist legislation was intended to increase the strength of the state; modern legislation, at least until the first World War, looked chiefly to the interests of the weaker members of the state. Not only does it protect employees; it promotes the interests and regulates the competitive practices of producers, and to some extent safeguards consumers. The sovereign power of the state to regulate economic life has been recognized as long as there has been a state; the methods, the extent, and the purposes of such regulation have been matters of debate in the past and will continue to be in the future.

CHAPTER FOUR

Land and Production

IN ANY large view of income creation, whether past or present, we are concerned with the relations between men, on the one hand, and the earth out of which they must make a living, on the other. True enough, the economist deals with the relations that men establish among themselves in the social process of making a living, as buyer and seller, as debtor and creditor, as producer and consumer, as employer and employee; but those very relations are conditioned by men's fundamental dependence on the earth for the possibility of keeping alive. Both the plentifulness of production and the kind of products depend directly on the land, as well as on the men who occupy and use it. In speaking thus we are using the term "land" in the economists' sense, as covering all natural resources, both of land and water, with whatever is available to men's energy under the earth's surface, with the plants and animals that grow on its surface without human care, with the air that surrounds it and the light and heat that fall upon it.

English production of the eleventh century made use of the materials provided by nature insofar as the limited knowledge and skill of the workers permitted. Producers today still rely on nature, though their knowledge and their power to control nature have vastly increased. Not only do rich natural resources make possible an abundant income, but the character of the resources of a given area largely determines what the prevailing industries of that area are to be.

In his work on *World Resources and Industries* Zimmermann defines resources briefly as "the environment in the service of man." The definition emphasizes one important fact: resources are relative to human wants and knowledge. When we did not know that anthracite coal would burn, anthracite coal was not a resource. The progress of scientific knowledge and the improvement of technique are constantly increasing our potential riches by increasing our ability to utilize our environment. New products, new processes, new industries, all mean that the natural wealth of today is different from that of yesterday. The resources of tomorrow will be more numerous and varied than those of today. The steam engine transformed coal into a resource of importance previously undreamed-of. New achievements in electrical transmission are for the first time making water power hundreds of miles from centers of

population, as at Boulder Dam, a resource of first importance. Nuclear energy may work unimagined changes in industrial life. We work with a determinate natural environment, but not with a fixed body of resources. The riches residing in the physical environment depend chiefly on the knowledge, the intelligence, and the ingenuity of the people.

This fact makes difficult both theoretical consideration of natural resources and the determination of policy in regard to them. Certain of our resources are in process of exhaustion at a rate alarmingly rapid. Yet it may be that, even from the long-run point of view, we do more wisely to draw heavily on today's resources than to stint ourselves today in deference to the needs of a tomorrow that may spurn the best we have today. In spite of this difficulty, thoughtful men are coming to see with increasing clearness that intelligent national policy must take long views, must maintain a proper balance between present and future in the measure that the future can be forecast. In the past we have thought of the United States as a treasure house of natural wealth to be gutted as fast as possible. We are today rapidly coming to regard it as the permanent home of perhaps a hundred and fifty million people, for whom its natural resources are to furnish the continuing basis of an abundant living. It is from this longer point of view that the economic student must approach the examination of natural resources, the "land" of the economist. He must recognize the fact that natural resources are "scarce" as scarcity was defined in Chapter Two. This scarcity makes necessary continuous choice among various uses, always with the purpose of making the greatest possible contribution to income. The choices are made by private individuals, by business groups, and by government agencies. Shall the garden plot be used for flowers or vegetables? Is this field to be planted to soybeans or reserved for pasture? What proportion of available oil shall be reserved for the Navy and what distributed to those who have money to buy? How rapidly are our forests to be transformed into overgrown Sunday newspapers? Whether the question is asked by the city family with a six-foot patch of ground, by the farmer planning his year's production, or by the government, looking to present and future welfare of the entire country, the fact that it is asked indicates the scarcity of natural resources.

Recognition of the problem is new in American life. Our population was for long sparse and rapidly growing; our resources have been overwhelmingly plentiful. Until we closed the gates after the first World War, the openings offered by our natural wealth brought in a continual flow of immigrants seeking to share in the New World the riches, the liberty, and the opportunities less easily accessible in the Old. Once here, the very necessities of making a living forced them to rely on themselves, to develop ingenuity, resourcefulness, promptness in action. Our hopefulness, our self-confidence, our individualism,

our interest in material achievement—these and other characteristics may well be in no small part effects produced by the abundance of our natural endowment. Our one thought has been to coin that endowment into profits most quickly and cheaply, without regard for the future. In the universal exploitation some persons profited more largely than others, but practically all classes shared in the great gains made by the application of labor to the virgin resources of one of the richest of the continents, and we became the wealthiest nation on earth. There was therefore general approval for any man who helped "develop the country" by laying the ax to the tree, bringing the soil under the plow, opening up the mines, or building roads and later railroads to carry products to market. Under such circumstances there was no thought of a future when the rich soils might be robbed of their fertility, when a scarcity of timber might threaten, or when the mineral veins might be worked out. Always the West beckoned with its new and greater riches. During the nineteenth century dazzled Americans moved on from rich resources to yet richer; from the fat valley lands of the Eastern seaboard to the yet fatter prairies of the Mississippi Valley; from the modest mineral resources of the early settlements to the incredible coal beds of Pennsylvania, to the fabulous iron and copper deposits of Lake Superior and the Rocky Mountains, to the El Dorado of California and Cripple Creek and Comstock Lode. Always it was better farther on.

Income under such conditions was indeed the result of labor; but even more conspicuously it was the result of appropriation or of a lucky strike. The inevitable resulting technique was a lavish use and rapid exhaustion of natural resources in order to get the maximum of usable wealth with the minimum of labor—the scarce element in production. The pioneer attacked the forest with ax and fire, without thought that the forest could ever be worth anything, as indeed it could not be to him—and posterity was a long way off. The farmer broke up the rich soil of the level lands and raised crop after crop of wheat or cotton, until the virgin fertility began to show signs of exhaustion; then moved on to other areas, equally or perhaps more fertile. The miner took out the superficial and easily worked veins of coal, paying no attention to the deeper-lying strata that ultimately might be even more valuable, and often making the later winning of these other treasures downright impossible. It was waste from the standpoint of today's conditions. Yet the lavish use of natural resources was the only economy then possible. It resulted in a historically unprecedented growth of both wealth and population, and in a general level of material well-being unknown over any considerable area anywhere else in the world.

This process went on without let or hindrance until the three million square miles of territory that make up the United States were occupied. By

about 1890 the frontier had become a thing of the past, though the period of rapid growth was by no means at an end. The United States began settling down to a relatively stable economic life, as opposed to one in process of rapid geographical expansion. At the beginning of the present century the conservation movement, under the leadership of Gifford Pinchot and Theodore Roosevelt, gave the first public recognition to the fact that American natural resources were not unlimited. During the succeeding decades that idea has become clearer, more widespread, and more influential in the determination of public policy. It must be remembered, however, that our present habits of thought and action, and much of our present economic and legal organization, came essentially out of the older exploitative economy of "unlimited" natural resources.

Classification of Natural Resources

Examining our natural resources as the necessary basis of our production, we find it useful to classify them in two ways: first, according to the industrial purposes they serve; secondly, according to their comparative exhaustibility. In our first grouping we have

1. Sources of food and industrial raw materials: farming and grazing land, metallic and nonfuel mineral deposits of every kind, forests, fisheries, and wild life of every sort both plant and animal.
2. Sources of power: coal, oil, and falling water.
3. Means of transportation: navigable waters.

According to our second grouping our resources divide thus:

1. Nonwasting: farming and grazing land, falling and navigable water.
2. Self-renewing: forests, fisheries, and wild life of all kinds.
3. Wasting or exhaustible: metallic ores, coal, oil, and every other kind of mineral deposit.[1]

[1]A third classification often used is convenient for purposes of exposition. It divides all resources into three groups:

1. Land resources, meaning the actual land surface and the products naturally growing thereon.
2. Water resources, meaning essentially the lakes, rivers, and swamps. Water resources must of course be considered in connection with the basic movement of evaporation and rain and snowfall.
3. Mineral resources, meaning the deposits of every sort under the earth's surface.

In our discussion we shall frequently use the phrasing of this classification. No confusion need be occasioned thereby, as it will always be clear that we are not using the term "land" in its technical economic sense, as equivalent to all natural resources.

Resources in the first and second categories of our second group may of course be destroyed or impaired by abuse, but properly used they have a practically perpetual life. A farm rightly handled will produce indefinitely. Wasting resources, on the other hand, are exhausted in a single use. Mine a coal deposit and it is gone.

It is sometimes urged that the food resources of our first group are basic in a special sense, since men must eat to live. Under ordinary conditions the contention has little force. The life of a modern society is far more than meat, and in an economy based on exchange it is the total of resources of all kinds, not of any one kind, that sets the limit to the living that any people can attain. Great Britain produces only a fraction of its own food, and has a relatively limited range of natural resources; yet its people have been among the best fed in the world, and among the most abundantly supplied with goods of all kinds. The economist must think of the total resources of all kinds at disposal in studying the problems of permanent prosperity. In doing so, however, he must recognize the difference between nonwasting and self-renewing resources, on the one hand, and wasting resources, on the other. To take 50,000,000 tons of irreplaceable iron ore out of the ground in a year is evidently a different thing from taking 16,500,000,000 cubic feet of timber out of the forests, if that taking of timber has been balanced by a corresponding growth during the year.

Land and Its Uses

The land area of the United States is some 1,903,000,000 acres, divided as follows:[2]

Table I · Land Use in the United States

	MILLION ACRES		PERCENTAGE	
Farms		987		51.8
Crops	413		21.7	
Pasture	379		19.9	
Woodland	150		7.9	
Other	45		2.3	
Forests (nonfarm)		457		24.
Grazed	249		13.1	
Not grazed	208		10.9	
Grazing (not forest)		329		17.3
Nonfarm, nonforest use		53		2.8
Little or no use		77		4.1
Total		1903		100.

[2]From Report of the National Resources Board, December 1, 1934, p. 109.

About half the land, it will be noted, is in farms, and about two fifths of the farm land is under crops. Forests occupy about one quarter of the area, or if farm wood lots are included, nearly one third. Most of this forest territory is rough and mountainous, and it includes the most of our immensely important metallic, and many nonmetallic, deposits. Nonforest grazing lands make up about one sixth of the total land surface of the United States, while pastures and grazed forests occupy an additional area twice as great. The modest 53,000,000 acres devoted to nonfarm, nonforest uses deserve special notice. This 2.8 per cent of the land, somewhat less than the combined area of New York and Pennsylvania, embraces (1) 12,000,000 acres of urban land, on which are situated all the cities and towns, with their immense manufacturing and trading interests; (2) 19,000,000 acres of public roads and 4,000,000 acres of railroad rights of way; and (3) 10,000,000 acres of public parks. A little comparison of the foregoing figures will serve at once to give the student some vague notion of the broad basis of land resources on which our whole economic life rests, of the special importance of certain limited land areas as living and working places, and of the network of land transportation which makes it possible for the United States to function as an economic unit.

We can deal with agricultural resources in only summary fashion, and in doing so we must touch on the intimately related questions of forest and water resources, since the three are inextricably tied together. The farm area of the United States is (with the possible exception of Soviet Russia's) the richest and most varied in the world. It includes the river valleys of the Atlantic, the Gulf, and the Pacific areas, and the inland empire of the Northwest, but above all else that most wonderful of all agricultural regions, the Mississippi Valley. The combination of topography, soils, and climate, notably the adequacy of well-distributed rain and snowfall, gives to this enormous valley a unique position among the world's agricultural districts. The present agricultural situation can be understood only by reverting to the history of its occupation.

In the colonial period there was only a fringe of settlers on the Atlantic coast, gradually working their way up the river valleys and depending largely on the rivers for transportation. By present standards the land available to them was relatively poor and was wrested from the forests at cost of immense labor. After the colonies had won their independence the Allegheny mountain barrier was broken through, and the great westward movement quickened. The coming of the railroad opened the stretches of the Mississippi Valley remote from water transportation, and a swift process of settlement went on. It is the economics of that historical process with which we are concerned. Such settlement was a movement on a vast scale from worse to better farming

lands. It brought about a great fall in the cost of production and the price of agricultural products, with consequent gain to all the people as consumers; a necessary abandonment of some of the poorer land previously used; and a reckless, wholesale utilization of the rich new lands, with consequences that we are only now facing.

In the early days even New England hill farms yielded a living, although a hard one, to the farmers who cultivated them. The products of better lands were not available in sufficient quantities; prices had to be high enough to cover costs on the rugged New England acres. When the railroads brought to the East, at comparatively small expense, the wheat and corn and hog products and beef grown on the level, fertile prairies of the Middle West, prices fell. The New England farmer could no longer cover expenses. His land might be as good (or as bad) as it had ever been, but it could not meet the competition of the better land thus made available. Thousands of the less fertile, more rough and stony, or worse-located farms in the New England hills thus inevitably reverted to the forest from which they were originally won.

At the same time the new lands of the Mississippi Valley were subjected to a process of rapid and reckless exploitation. Rich, cheap, and relatively easy to work, they invited the farmer to spread his labor over a large area, trusting to the natural fertility of the soil and therefore taking much out of it in a succession of soil-exhausting crops, while putting comparatively little back. When the matter was first brought to public attention in the early days of the conservation movement, serious concern was aroused over the reduction of soil fertility in consequence of the loss of certain chemical elements, notably nitrogen and phosphorus, because of continuous cropping. The progress of scientific agriculture and the development of artificial fertilizers in the intervening third of a century have reduced this danger, but the problem of farm land has taken on a different and far more serious form in the actual erosion of the soil itself.

Soil Erosion

It is only a thin layer of topsoil, rarely a foot deep, that best serves the purposes of cultivation. The underlying clay, gravel, and other deposits that reach down to the foundation rocks lack the physical composition, and sometimes the chemical constituents, necessary to plant growth. Soil formation takes place with almost incredible slowness, and until "soilless farming" has reached the stage of commercial practicability on a nationwide scale, we shall continue to depend on the soil that the processes of nature over long geologic periods have put at our disposal. Under natural conditions the cover of grasses

and other plant growth, including trees, helps to hold the soil in place and in the slow course of decay gradually builds it up. Man comes. He makes a clearing in the forest. He digs and plants and hoes, and we have the beginnings of agriculture. Still the natural cycle of rainfall and plant growth and decay goes on little changed, for man's puny efforts have produced no significant disturbance of that natural balance under which this soil covering has been built up.

But man grows more powerful. He learns to attack the forests with the aid of machinery and on a vast scale. He strips whole mountainsides and sometimes great districts of their timber, reckless of the consequences. The rain and snow, previously retained in no small part by the forest cover, and only gradually released in stream flow of comparative regularity, now make their way quickly and suddenly to the watercourses, bringing floods and their attendant destruction. Meanwhile man, this uniquely powerful animal, is making changes no less significant in agriculture. He devises machinery with which he can stir the soil deeply. With the aid of the power now at his command he can lay open great areas of comparatively level land for the production of the crops he desires instead of the (to him) relatively useless plant cover that nature provides. In so doing, however, he likewise lays the soil open to erosion, and unless his operations are conducted with due regard for the perils he has created, he exposes himself to the danger of seeing the very land by which he lives carried away beneath his feet. In general, human progress has been slow enough so that an undue upsetting of the natural balance has been in large part avoided, though examples of the penalties attending such upsetting are by no means lacking.

In the United States, however, the immense resources of this country were, to all intents and purposes, opened to modern men for the first time after, and not before, they had possessed themselves of the possibilities of machinery and power. In effect, the United States, except for a little strip along the Atlantic coast, was occupied during the nineteenth century. The fewer than 4,000,000 inhabitants of 1790 multiplied sixteenfold to the 63,000,000 of 1890. During a single century this swiftly multiplying population, armed with the powers of a rapidly advancing technique, possessed itself of the resources of a continent in the effort to turn them as swiftly as possible into gold. Nothing approaching the process on any such scale was ever seen before or can ever be seen again. At one and the same time, and on an enormous scale, we cut down our forests and plowed our lands, which had been under grass or forests for countless ages. Without realizing what we were doing, we set in operation forces of erosion capable, if unchecked, of all but destroying in a surprisingly short time the essential basis of our material prosperity.

Year by year our rivers carry down to their lower reaches and deposit in and near the sea almost incalculable amounts of solid matter, consisting in no small part of the valuable topsoil which is our chief resource for crop production. With the reckless cutting away of forests at the headwaters of our streams the irregularity of their flow is increased, because the water storage afforded by the forest cover is interfered with. The rivers rush down in devastating floods in the spring or after heavy rainfall; they shrink to a trickle during dry periods. The plow has exposed to the direct action of the sun and rain (and in recent years, in the less humid Western lands, of the wind) our valley and prairie lands, which in their virgin state had a cover of trees or of grass. The rainfall in increasing proportion runs off these cultivated lands, carrying with it fine particles of earth. If the process goes on long enough, nearly the whole of the fertile, absorptive topsoil may be removed. As the subsoil is less absorptive, a still larger proportion of the rainfall has to run off, and the gullying that has already begun continues at an accelerating rate, until the land is reduced to sharply cut claybanks and gravel deposits worthless for crop production or any other purpose.

Few persons have any idea how fast this process works and how far it has already gone. Studies of the Soil Erosion Service, to take a single example of speed, show an acre of Iowa land on a 10 per cent slope losing 44.6 tons of soil and 12.5 per cent of the rainfall under a clean-tilled crop, while a corresponding acre under grass lost only 1.3 tons of soil and 6.5 per cent of the rainfall. Average results of the studies are even more striking. They indicate that grass is about 65 times as effective as a clean-tilled crop in soil conservation and 5 times as effective in holding water. The present status of our land, as shown by erosion maps, is startling. It may be roughly summarized as follows:

Table II · Erosion Status of Land in the United States[3]

	MILLION ACRES
Erosion unimportant	799
Moderate sheet erosion	613
Moderate wind and sheet erosion	101
Severe sheet erosion and wind erosion	277
Essentially destroyed by erosion and gullying	22
Intermixed mesas, valleys, canyons, etc., erosion generally exceedingly serious	123
	1935

On less than half our land, it is to be observed, is erosion regarded as unimportant. On that third designated as moderately eroded, much of the land

[3]Report of the National Resources Board, p. 171. The Soil Conservation Service of the Department of Agriculture reported but 30.3 per cent of the area of the United States as unaffected by erosion in 1934 (Gustafson and others, *Conservation in the United States*, 1939, p. 96).

has lost from one fourth to three fourths of its topsoil. More meaningful is the comparison with our farm land. Table I shows 413,000,000 acres under cultivation. The National Resources Board reports 35,000,000 acres of farm land, formerly good, now destroyed for the production of cultivated crops, mostly by gully erosion; 125,000,000 additional acres now in crops completely or largely denuded of their topsoil; and another 100,000,000 acres starting in the same direction. That is to say, of our farm lands, an area equal to more than half our crop acreage and more than one quarter of our combined crop-pasture acreage is significantly impaired, and as regards more than half that area, dangerously impaired, by this process. The potential productivity washed and blown from our fields each year is valued at 400 million dollars. This takes no account of loss from flood, which in the worst floods amounts to half a billion dollars. The Secretary of Agriculture in 1937 summarized the situation thus:

"Out of 413,000,000 acres, only 162 million acres were found to be safe from the more serious types of erosion under current farm practices. The tillage practice in use on 251 million acres, or on considerably more than half the land in cultivation, will make profitable crop production impossible if long continued. It is imperative to begin effective measures to check soil wastage."[4]

Such facts as these make questionable the second classification of resources on page 62. It is true that if quality is ignored, the actual supply of land in the world is fixed; but if by "land" we mean fertile soil, useful to man, clearly it can be so seriously reduced in amount as to make large inroads on the income of a once prosperous people. By abuse we can reduce the amount of land. Have we also the power to increase it? Extensive fertilization or systems of drainage can bring more land under cultivation; but the increase has been achieved by the use of labor and capital goods, and cannot be regarded as a resource supplied by nature. Land created by heavy expenditures is a different thing from land which is the free gift of nature. It raises new economic problems, some of which will receive later consideration.

Forest Resources

Forests are a resource indispensable in two particulars. First, they provide, in the form of wood, one of the most important raw materials and a not unimportant fuel. A second and no less significant fact is that the forest cover on rough land, as already indicated, serves to regularize stream flow. Such

[4]Annual Report, 1937, p. 36.

regularization prevents floods and erosion and increases the usefulness of rivers for navigation and power purposes. There are immense areas, rough and mountainous land and plains of relatively poor soil, on which, in our present state of knowledge, nothing except trees can be produced. Plainly they ought to remain in forest. No less plainly, all questions of timber production aside, it is essential, in view of the second service of forests, to maintain a proper relation of forest to nonforest land if life on the latter is to be continuously carried on. Also, on the lands kept under forest the correct balance of cutting and growth must be maintained. If lumber production is to be permanently maintained, the annual cut must not exceed the annual growth. A too-eager cutting will in time inevitably denude the land of trees, and long before that happens will cause a rise in the cost and price of wood and will seriously impair the invaluable service rendered by an adequate forest cover.

Wood is produced most cheaply from virgin forests because no expense of growing the trees has to be incurred. In the early stages of development of a country rich in forests, as was the United States, the woods are cut down and timber is sold cheaply, without any thought of the relation between growth and cut. The easily available forests become exhausted, lumber prices rise, and the problem of balancing cutting against growth ultimately presents itself as an essential element in permanent prosperity. There comes, accordingly, a transition from reliance on virgin forests to dependence on forests managed on forestry principles, that is, the selection of designated areas on which trees will be grown and harvested, like any other crop. A certain part of the land must be maintained under forest, and that forest area should be handled in such a way as to yield the maximum of useful products. The situation is distinctly different from that which prevails during the period of abundant supplies of virgin timber.

Let us see where we stand. When white settlement began within the present area of the United States, more than two fifths of that area, some 820,000,000 acres, were covered with forests, including nearly all the country east of the Mississippi, in addition to great areas in Arkansas, Louisiana, Texas, and the Pacific Northwest. At present, it will be recalled, if we except farm wood lots, only about one quarter of the land is under forest. Throughout the nineteenth century cut exceeded growth, often several times over, and we were continually reducing our forest acreage. Lumber consumption reached a peak in 1906. Since that time its trend has been downward, despite the continued growth of population and manufactures. Yet as late as 1929, despite a generation of government effort to make clear the dangers of our course, we were still taking out of our forests nearly two cubic feet of timber for every one that grew, and in the important saw-timber sizes about five for one.

Early settlers at first used local timber supplies, but with the improvement of transportation commercial exploitation began, and continued on an ever-increasing scale. The Great Lake regions in time gave place to the South as the greatest source of supply, the latter in turn yielding to the Pacific slope. At present some 45 per cent of our lumber is consumed in the states north of the Ohio and east of the Mississippi; about one third of the total lumber cut, on the other hand, comes from the South and about 30 per cent from the Pacific coast. With a haul of 1000 miles from the South and 2500 from the Pacific coast, the freight rate has become a highly important element in the cost of lumber, and it is not surprising that that cost has risen sharply for the country as a whole over the past seventy-five years.

We are in process of a necessary transition from reliance on virgin timber, strictly a natural resource, to timber produced, exactly like any other crop, by human agency, though the land used remains a natural resource. In view of the increasing cost of timber, and especially in view of the secondary results of forest destruction, it is highly important to hasten that transition as fast as possible. The difficulties of the change from tree mining to tree cropping arise chiefly out of the fact that the former process yields large immediate returns, while the latter is profitable only if carried on over a long period of years. Tree crops are slow in coming to the harvesting stage. At the shortest, southern shortleaf pine and red gum used for fence posts require perhaps fifteen years; central and northern hardwoods need a century or more to grow large enough for saw logs. This physical fact imposes definite restrictions on the private owner of timberlands. Unless he owns immense tracts, he can scarcely afford to practice the selective cutting that is a part of any permanent forestry policy. If he wants to get any considerable income from his timberland (except for small wood lots), he is almost bound to dispose of the timber on the stump to a lumber company. Such a company will in all probability come in and make a clean sweep of it, leaving the land practically useless as a source of income for perhaps a half-century or more, until a new crop of trees shall have had time to grow. Even at that the new growth is likely to consist of less valuable varieties than those that were cut down. The lumber companies, moreover, even when they acquire stumpage on a large scale, are commonly interested in immediate profits rather than in continuing operation in a given area. They set up great sawmills, often involving a heavy investment, figuring that they will have available a timber supply large enough to last a certain number of years, during which they will have recovered their investment with profit, and then will move on to other lands available for similar exploitation. There is a comparatively short period of feverish activity, during which the whole area involved is swept bare of its trees, to be followed

by decades, at the shortest, during which it is practically a waste, useless for human purposes. The comparative cheapness of lumber produced by these exploitative methods from virgin areas makes it impossible to grow timber profitably, so long as there is still virgin timber available. Only when the remaining timber is so far distant from the markets that the freight rates on it balance the cost of growing forests can private companies turn to tree cropping.

Forest Policies of the Government

It is in the effort to bridge the gap between the immediate and the permanent interests of their citizens that governments, including our own, have developed their forestry policies. Because of our particular economic situation at the present time, when we are making the transition from an exploitative to a more permanent economy, our forest problem is one of special interest and importance.

In view of the important and long-time interests at stake, the Federal government, and in lesser measure some of the state governments, have followed the course long ago found necessary by European states. They have taken measures for the public acquisition and administration of forest lands, and have tried by every means in their power to hasten the transition to scientific forestry on privately owned lands. The Forest Service in 1934 estimated that about 180,000,000 out of a total of 615,000,000 acres of woodland were publicly owned, with 285,000,000 industrially owned and 150,000,000 in farm wood lots. The Secretary of Agriculture pointed out in his Report for 1937:

"However, private ownership now holds four-fifths of the commercial forest land we have left; almost three-fifths of the remaining commercial saw timber; and at least nine-tenths of all potential forest growing capacity. Approximately 98 per cent of all our forest products still come from these private lands. In general, wasteful exploitation continues there."

The Forest Service recommends additional public acquisition of forest lands, chiefly by the Federal and in less degree by the state governments, to bring the publicly owned total to 358,000,000 acres by 1960, or almost three quarters of the total nonfarm forest area.

The government can afford to use its taxing power (and if necessary its borrowing power) to acquire forest lands and hold them for half a century without receiving any considerable revenue from them, if by that means it can prevent its present citizens, in the pursuit of their own immediate self-interest, from destroying the basis of the prosperity of the citizens of the

future. It amounts to a taxation of the present in behalf of the future. If its result is essentially to prevent the reckless exhaustion of a natural resource of the first order, like our forests, then the present generation has no ground for complaining of the burden it is asked to bear in behalf of its descendants. Whatever differences exist concerning the desirability and wisdom of government administration in other fields (to be considered in Part Six), there is practically no opposition among intelligent people to the policy of government acquisition and administration of forest lands. Under our present conditions such a policy is essential to the change in forestry practices necessary to future prosperity.

Forest Policy of Private Enterprise

Insofar as private enterprise contemplates permanent operation, it adopts practices similar to those of the government in protecting the natural resources on which its activities depend. The railroads, looking forward to their future need for ties, have in some places begun to grow wood for that purpose instead of planning to rely indefinitely on the lumber market. Some newspapers have acquired extensive tracts of woodland in order to meet their need for wood pulp for an indefinite future. Large corporations, foreseeing a continuing need for a large wood supply for their operations, have acquired forest holdings, which they are beginning to manage on scientific forestry principles with a view to obtaining a sustained and increasing yield. Already price relations have changed enough so that a small number of lumber concerns are finding it possible to begin to operate on a sustained-yield basis. A few are beginning to practice scientific forestry, planning to maintain themselves on the basis of adequate timber reserves so that they can operate their mills out of the annual growth on their lands. Such practice means the maintenance of definite areas of land as sources of timber supply, and of lumbering as an industry no less stable than agriculture or manufacture or trade. Insofar as this spreads, private effort reinforces public in substituting a farsighted system of forest management for one that in the nature of things can last only as long as there are more forests to rob. The Forest Service is doing everything in its power to encourage this, but, except in the publicly owned forests, up to this time we have made scarcely more than the beginnings of a policy of permanent forestry. Scientific practice at present is limited to a trifling fraction of our private lumber companies, almost our whole cut being produced by old exploitative methods.

The same principle of permanent management versus reckless temporary exploitation that applies to forests applies equally to the minor resources of

wild life of every kind, both on land and under water. With the spread of human life and the more intensive utilization of the earth's surface, the regions in which wild animals and birds can maintain themselves in safety become more limited, while man's power to destroy them constantly increases. Some valuable species have become extinct in this country, and others are reduced to a fraction of their earlier numbers. The story of the bison and the wild turkey is a well-known chapter in American history. Today we have learned something of the value of our treasures of wild life, as sources of food, of furs, of recreation and enjoyment of various kinds. In recent years we have made striking progress in measures, sometimes involving international action, for the protection of wild creatures—in the establishment of great game preserves and bird refuges, in the safeguarding of breeding grounds, in the restocking of lakes and rivers with fish, in a hundred lines of action that promise to preserve for posterity the fish and game and wild life of every kind so easily destroyed by reckless sport and even by thoughtless neglect. In the cost of the second World War must be reckoned the destruction of thousands of sea birds and other valuable forms of wild life.

If we are to enjoy a future prosperity based on abundant natural riches, the use of self-renewing resources over a period of time must be limited to the amount of replacement during that time, either as carried on by the forces of nature or as aided by the intelligent management of man. More widely significant, the various resources must be kept in the proper relation to one another. Not only must we cultivate our land properly, but we must keep the area under crop in right relation to that under pasture and forest, devoting the due proportion of land to each of the many human purposes for which it is employed, and remembering that with all their power men can only at their peril exceed certain limits in upsetting the balance established by nature.

Mineral Resources

When we turn to the wasting resources on which we rely for our supplies of metals and minerals and part of our power, we face a wholly different problem. The physical quantities of these resources are definitely fixed. Once used, they are gone forever. This fact had small significance during the long centuries when mining was carried on without the help of mechanical aids, when metals were little used, when the power possibilities of coal were undreamed of. The drafts made on nature's bounty during all those thousands of years were negligible. The coming of machines and the utilization of coal, oil, and water power to drive machines, to be discussed in a later chapter,

suddenly changed all that. Fuels and metals, by making possible power-driven machinery, became the basis of contemporary civilization.

As a result, the consumption of mineral resources has almost incredibly increased. The drafts made on the ores, coal, and oil of the world during the past one hundred and fifty years exceed immeasurably the consumption of all preceding times. Yet further, within that period of a century and a half the exploitation of these resources has been going forward with an astonishing acceleration. Zimmermann points out that during the three hundred and seventy years from 1500 to 1870 the world's annual output of iron increased from 50,000 tons to 12,000,000, but that during the sixty years following it rose to almost 100,000,000 tons. The output of mechanical energy (based chiefly, it will be recalled, on the consumption of coal, oil, and gas) rose correspondingly. The facts are hard to grasp. To quote a striking passage from C. K. Leith written in 1931:

"Few realize . . . that in a hundred years the output of pig iron, copper, and mineral fuels has increased a hundred fold; that more mineral resources have been mined and consumed since the opening of the [twentieth] century than in all preceding history; that in the United States more minerals have been mined and consumed in the last twenty years than in its preceding history; that the per capita consumption of minerals in the United States has multiplied fifteen times in forty years; that the world production of several essential minerals has been doubling about every ten years. The last twenty years have seen as much world gold production as the four hundred years following the discovery of America. A single Lake Superior iron mine now produces every two weeks a volume of ore equivalent to the Great Pyramid of Egypt, which required the toil of vast hordes for several decades and has been long regarded as one of the most stupendous works of man. In 1929 the United States produced more zinc than all of the world did in the first fifty years of the last century. The copper production of the world in 1929 was more than twice as great as the estimated production for all history up to the nineteenth century, and the United States figure for the same year was greater than all the production of the country up to 1888."[5]

The demands of the second World War enormously increased the seriousness of the problems raised by Leith. A report issued by the Department of the Interior in 1945 gave startling estimates of the depletion of many of our mineral reserves; for example, of mercury we have now about 5 per cent of our original deposits, of gold 25 per cent, of copper 40 per cent. Under these

[5]C. K. Leith, *World Minerals and World Politics* (Whittlesey House, 1931), pp. 3–4.

circumstances the relation of annual output to reserves of minerals evidently becomes a matter of first importance. How, if at all, will it be possible to maintain the existing standards of industrial production, to say nothing of advancing them as they have been advanced during recent years, in view of the threatened scarcity of the minerals on which such advance has been dependent? In this connection it has been common during the present century to compare annual production with known reserves of various important metals and fuels, and to point out that within a definite period of time, not uncommonly measured by decades, the reserves will be used up. Perhaps the most striking of all such comparisons has been in respect to oil. Our production of this useful commodity in 1870 was 5,261,000 barrels; thirty years later it had multiplied about twelvefold; with the coming of the automobile and the wholly new use of petroleum in the form of gasoline to drive millions of cars over our highways, it again multiplied sixteenfold to 1,007,323,000 barrels in 1929, an average of practically 3,000,000 a day! During the war the daily production reached 4,500,000 barrels. Every day we take out of the earth in the United States three-fifths as much oil as was extracted in the entire year 1870. Small wonder that an official board a few years since should have credited the known oil-bearing sands of the United States with a life of only about fifteen years and that the government is searching for sources of supply outside this country. Similar, though less sensational, estimates have been made for various other minerals. Such statements have inevitably directed serious attention to the problems presented by the possible exhaustion of the abundant supplies of minerals on which the world has been able to rely during the century and a half since the invention of power-driven machinery. Since the progress of that period has depended on these ever-increasing drafts on our mineral resources, is there hope of making further progress, or even of maintaining our present position, in face of the impending exhaustion or the relative scarcity of such reserves? Instead of looking forward to a future in which the people of the United States may create for themselves, as has already been suggested, a permanent and increasing prosperity, must we not, if we look at facts instead of hopes, contemplate a decline in our power of production due to the exhaustion of some of our materials and metals, no matter how wisely we may manage the nonwasting and self-renewing resources of agriculture, forests, and wild life? The problem is plainly no easy one.

Conservation of Mineral Resources

Yet the outlook is by no means so discouraging as the above discussion might suggest. In the first place, prospecting still goes on pretty much all

over the world. No year passes without discoveries, sometimes important ones, of new ore or fuel supplies. Secondly, and more important, advances in technology and applied science are continually taking place, which make it possible to work known deposits more cheaply and thoroughly, to get a larger amount of metal out of ores and of heat out of fuel, and even to create new products out of ores previously useless. Thirdly, there is taking place a rapid increase in the use of scrap for making metals. Each of these three developments deserves brief attention.

The romantic period of mine discovery is probably over, though the hunt for oil during the present century has been an epic of corporate romance stretching to every corner of the globe. For the most part, however, the earth is fairly well explored. Prospecting is no longer carried on chiefly by hardy and reckless individuals, who become rich overnight as the result of a lucky strike. Instead, it is prosecuted systematically by great corporations backed by all the resources of science and with equipment that sees through earth and rocks. Today's prospectors are the geologists and physicists and engineers. At the present time probably the most extensive and systematic search for treasure is being carried out over the vast stretches of the Soviet Union under the auspices of the Soviet government.

There is little reason to anticipate new discoveries in the future comparable to those of the nineteenth century, particularly in a country as thoroughly explored as ours. Our present situation is well put by Tryon and Schoenfeld:

"The history of mineral exploitation is a record of a struggle against increasing natural difficulties. . . . Discovery of new bodies of rich ore may interrupt the process, but otherwise the natural obstacles increase year by year. . . . Among the metals, no prizes comparable with Butte or the Comstock Lode have been found in the continental United States in the last quarter century. . . . Of the 33 leading districts producing gold, silver, copper, lead, zinc and even iron, only 5 have been found since 1900 and none at all since 1907. In Europe and Australasia, also, the day of brilliant success in surface prospecting seems over. . . . The things of obvious value which outcrop on the surface have probably been found. . . . The search for minerals must now be organized on a large and costly scale. . . . The nineteenth century was the age of dazzling discovery; in the twentieth the battle against increasing costs must fall more heavily upon the factors of transport and technology."[6]

It is on technology in its widest sense, then, and not on the prospector, that our hopes for a continuing production must chiefly rest, so far as production depends on metals and other minerals. To discuss even superficially the

[6] *Recent Social Trends* (McGraw-Hill Book Company, 1933), pp. 64–66.

technology of a single metal, like iron, and the history of that technology since the Industrial Revolution, would require a volume. In every instance such history records a progress, often by steps of revolutionary importance, that has made it possible to utilize ores of lower metallic content or of more intractable chemical composition, to extract ores at lower cost and transport and smelt them with less expense, to get more and better products at lower cost out of particular ores, and to combine them into new products by new methods. The progress of metallurgy has been continually changing the relative degree of our dependence on metallic resources, and will continue to do so. Steel as we know it today, the very material of contemporary productive equipment, is less than a hundred years old, and today's alloy steels are products different from anything that was known yesterday. We seem to be at the beginning of a period when the alloys, in addition to changing the character of steel, are to lengthen its life, and when lighter and harder metals are perhaps to take the place of steel in many important uses.

We may illustrate the effect of such technological changes on our ore demands by a single example from the steel industry. When Bessemer created the modern steel industry in the middle of the nineteenth century, he could utilize in his converter only iron made from ores of low phosphorus content. Our steel manufacturers relied almost wholly on the wonderful low-phosphorus deposits of the Lake Superior region. As late as 1900 two thirds of our steel was still made by the original Bessemer process, though the substitution of the basic for the acid lining of the Bessemer converter and the development of the open-hearth process had released the industry twenty years earlier from its entire dependence on ore of low phosphorus content. Today the superiority of the open-hearth product has caused it to take the place almost completely of the less uniform Bessemer steel, and the low-phosphorus ores of Lake Superior are now only one among several sources of supply that feed our voracious steel furnaces.

The third influence delaying the drain on our metallic ores is the rapidly growing use of scrap metal as a substitute for ore. To illustrate again by steel, there is a considerable disappearance of iron and steel by corrosion and by uses (like steel reinforcement in concrete) from which no recovery is possible. Yet there is a great and growing volume of scrap. Probably one third of our steel today is made from scrap. Once a country is industrialized and furnished with its initial equipment of steel, its scrap output rises as that equipment wears out or becomes obsolescent. The more rapid the obsolescence the larger the amount of scrap, and likewise the greater the demand for ore plus scrap. The theoretical problems involved are fascinating, and suggest the wisdom of caution in making sweeping prophecies of doom based on the impending

exhaustion of metallic resources. The situation in steel is being duplicated on a smaller scale in copper and various other metals in whose current production scrap has become an important material. In considering the whole question of metallic resources, the student may profitably ponder the suggestive conclusion of Tryon and Schoenfeld:

"We are moving toward a position where the bulk of the world's annual requirements of metal will be met from scrap. The demand for virgin metal will consist chiefly in replacing the annual loss through dissipating uses, wastage and corrosion. Obviously such a condition is far in the future, but the tendency is unmistakable and it suggests one of the ways by which modern society is adjusting itself to the increasing natural difficulties of mining."[7]

We have raised but a few of the many considerations that must be taken into account in any examination of the relation of metallic resources to permanent prosperity. We suggested earlier that the prodigal use of our agricultural and forest resources characteristic of the nineteenth century could in the long view be only a comparatively brief incident in our national existence, to be followed by a new stage in which we must plan to adjust our life to the resources we have and to make the most of them. For quite different reasons the same conclusion holds for our ores and all those minerals whose quantity is not for practical purposes unlimited. Deep-seated deposits and low-grade resources must be made the object of systematic search.

Mineral Fuels and Their Conservation

When we turn to our mineral fuels new questions arise. Their importance is enhanced because they are the critical resources. In the race between mine exhaustion and technology mentioned in our discussion of the nonfuel minerals, the chance for the victory of technology rests almost wholly on the possibilities of cheap power. Our resources of coal, oil, and natural gas are fabulously rich. Like all other minerals they are irreplaceable. As we have already indicated in respect to oil, the drafts we are making on them are almost inconceivably large. Those who own coal fields and oil-bearing lands are naturally eager to realize a profit by the prompt development of their properties. Since the law makes the landowner the owner likewise of everything under the surface of his land, since oil in fact exists in underground pools or sands that are no respecters of property lines, and since a well put down on one owner's property may drain the oil underlying the property of a dozen neighboring owners, there is evidently bound to be a mad competition in

[7] *Recent Social Trends*, p. 75.

drilling on any proved oil-bearing area unless some arrangement is effected for what is called unit development of the pool. Otherwise a literal flood of oil pours out that must be sold for any price that it will bring, often too little to cover the cost of production, unless it be the cost to specially favored producers. This has been a situation continually recurring during the present century. It means a period of cheap gasoline, which has helped to put the whole country on wheels. But it means also the swift movement toward exhaustion of an irreplaceable natural resource on whose continuation the national economy in its existing development has come to rest.

Technology has not only increased our use of natural resources but has taught us how to save them. Take a simple example in the use of coal, whose technology the uninformed person is likely to think of as little changing. In a dozen years ending in 1930, the consumption of coal in making pig iron fell 16.7 per cent per ton made; in hauling freight by rail, 31.3 per cent per ton-mile hauled; and in generating electricity, practically 50 per cent per kilowatt-hour generated. The first steam engines required 15 pounds of coal for one horse power; now a single pound is sufficient. A ton of coal today can do far more work than it could yesterday; tomorrow it will do yet more.

The mere mention of facts like these is enough to suggest the nice balancing of present against probable future needs that is requisite to the shaping of an intelligent long-range policy for the use of our fuel resources. They are immensely rich. They are immensely valuable today in terms of life, and not merely of money; they will probably be more valuable tomorrow. In shaping a policy there is no occasion for panic, and there is no justification for an undue preoccupation with tomorrow at cost of the reasonable utilization of those resources in meeting today's wants. But we must consider tomorrow no less seriously than today. Today's use must prejudice tomorrow's possibilities no more than necessary.

Let us put the whole situation briefly, relying chiefly on the Report of the National Resources Board of 1934, and quoting from that document. Despite the richness of our natural resources,

"The situation varies greatly in different minerals, but, in general, depletion is much further advanced than is generally realized. Known supplies of oil, natural gas, and certain of the metals (ores of present commercial grade) are sufficient for, at most, a few decades. Even in coal mining, the life of certain districts producing our finest coals is limited to about 85 years at normal rates of production."[8]

[8]Report of the National Resources Board, December, 1934, p. 35. The reference is to the West Virginia coal, on which, in part, the steel industry depends. Reserves of lower-grade coal are adequate for hundreds of years at present rates of consumption.

In both metals and fuels the reserves are sufficiently limited so that waste can no longer be tolerated.

In the face of this situation waste continues at an astonishing rate. Both the coal and the oil industry are seriously overdeveloped, so that their products continue to be taken out and sold at prices that do not yield a return on the capital invested. More serious is the fact that actual physical waste, largely due to bad practice occasioned by the need for quick returns, is extremely high. Our annual loss of coal, avoidable by general use of the practice of the better companies, is no less than 150,000,000 tons, 20 per cent of our output. Natural gas occurs chiefly in connection with petroleum deposits and, besides its fuel value, is of the utmost importance in helping to bring to the surface oil from the deep-lying sands. During 1929–1930 the heating value of gas wasted in one California field was equivalent to the energy that can be generated at Boulder Dam during the same period. During 1934 nearly a billion cubic feet of gas, equivalent to 40,000 tons of coal, was being blown into the air every day in the Texas Panhandle alone. This is twice as much gas as the total consumption of the United Kingdom, and forty times that of all Scandinavian countries together. Such figures are almost unbelievable. They suggest both the extraordinary natural wealth of the United States and the reckless prodigality with which even today it continues to be gutted, though the long shadow of a future less rich in fuel is already clearly visible. We have a present surplus combined with the threat of a future shortage.

"At first thought the immediate problem of the surplus and the long-time problem of conservation seem to be in conflict. Actually they are due to the same fundamental cause—the destructive competition characteristic of scattered ownership and overdevelopment of productive capacity. Resource waste is most serious in those very industries with an unmanageable surplus. . . . Avoidance of waste is partly a matter of technology. But very largely the prevention of waste is a legal and economic problem. . . . The first and indispensable step to the solution of either the short-time problem of too many mines and miners or the long-time problem of preventing waste is to place these industries on a basis of economic stability."[9]

We cannot enter into the details of actual and proposed conservation programs. Our purpose is simply to point out the basic importance to production of fuel resources as far as we can now forecast the future, the necessity for a proper balance of present and future as a condition to permanent prosperity, and the consequent immediate problem of a public policy that will help to establish such a balance.

[9]Report of the National Resources Board, 1934, p. 35.

Water Resources

Throughout our examination of resources we have dealt only incidentally with water resources, which, in reality, are highly important everywhere. The whole life process itself depends on the perpetual movement of water—evaporated by the sun's heat to condense in clouds and fall as rain or snow on the earth's surface, thence transpiring through plant and animal organisms or moving down the watercourses to the lakes and oceans, to be carried upward once more in the endless hydrologic cycle. Our agricultural and forest lands would be nothing without water. Our moving waters, properly harnessed, serve the ends of navigation and power, and in the latter relation, so far as they are available, take the place of the fuels of which we must rob the earth. Industrial operations of most kinds require enormous amounts of water. No study of natural resources can neglect the complete dependence of man on water.

Practically, men's employment of water consists chiefly in putting themselves into the most advantageous relations to its movements, and turning those movements to their own purposes. They farm the well-watered plains and build their cities by the rivers and the harbors. As we have already indicated, they may, by operating on a large scale, affect the movement of water seriously, occasionally to their own destruction. Sometimes regions that once supported considerable populations are rendered uninhabitable; sometimes, on the other hand, the rivers are controlled to prevent floods and to make the waters more useful for navigation and power. Because of the spectacular development of electric power during the past third of a century, it is the power aspect of water control that chiefly attracts popular interest at all times except when the movement of water assumes the proportions of a flood. As power, water ought to be thought of, not as a competitor of fuels, but as a supplement to them, especially valuable because it is a nonwasting resource. The combined power resources of a district, in order to be utilized with the maximum economy and efficiency, ought to be handled essentially as a unit. Fuel or water power ought to be employed according as one or the other may be more economical in the particular circumstances. Water power must be developed *in situ*, but the development of the electrical art has made possible its transmission over great distances without prohibitive losses. The Federal Power Commission has estimated that the water power of the United States is capable of producing 273 billion kilowatt-hours a year. In 1941 we actually produced 51.1 billion, an extraordinary advance over the energy production ten years earlier, but obviously far from full utilization of our possibilities. In 1944 the power plant of the Grand Coulee Dam in a single month produced 621 million kilowatt-hours of electrical energy. It is still too early to surmise

what will be the effect on the generation of power by water and fuels once nuclear energy is available for industrial purposes. Failure to develop our power resources represents a pure social waste insofar as their output could be put to profitable use. The use of their energy instead of that produced by burning fuel means not only a lessening of the labor cost of today's production but a lessening by so much of the draft on our fuels, which, as far as we can now forecast, seem likely both to cost more and to be worth more in productive capacity as the decades pass.

Two large problems are here presented, the control of water movements and the utilization of water power. If our consideration of agricultural and forest resources and of problems of erosion has in any degree served its intended purpose, the student should already realize that the control of water movement in its relation to land is ultimately far more important than the utilization of falling water for power. Further, it should be clear that any such control, in order to become effective, requires comprehensive public and private action. Only detailed study can give any idea of the variety of activities now being carried forward. The Annual Reports of the Secretary of Agriculture describe many such efforts, but they cannot be elaborated here. This is also true of any consideration of the control and development of water power. Any discussion of them at this point would necessarily transcend the purposes of this chapter.

The Economic Basis of the Conservation Movement

This examination of our natural resources, it is hoped, may aid the student to realize how largely the material return to human effort depends on the resources upon which it is expended, may make clear the extraordinarily favorable position that the people of the United States have enjoyed in respect to such resources, and may suggest the importance of a wise conservation policy to a continuing prosperity. During the nineteenth century our system of private property under our particular conditions proved highly favorable to an unprecedented growth of production. This growth was incident to a swift exploitation, and accompanying spoliation had reached a point where its continuance threatened our future prosperity. The modern conservation movement has been the answer to that threat. It is not conservation for the sake of conserving but in order to achieve the greatest possible national income. It seeks to protect resources for the future against depletion by a reckless and thoughtless use in the present. It attempts, first, to secure the voluntary co-operation of property owners in a wise use of the natural resources under their ownership. Secondly, where such co-operation cannot be obtained with-

out delay, it seeks restraint of property owners, under legal penalties, against using in ways contrary to the public interest the resources that they own. Thirdly, where neither method promises to be effective in bringing about the desired use, it tries to bring about actual public ownership and administration of the resources in question. Our system of private property is thus being modified so as to bring about a better long-time use of our natural resources. The basis of all this is the recognition of the fact that production can be bountiful only if men are generously aided by nature. The income of the future depends in considerable part on its heritage of natural resources.

CHAPTER FIVE

Population and Production

"THE requisites of production," wrote John Stuart Mill in 1848, "are two: labor and appropriate natural objects." The second of these requisites was discussed in the preceding chapter; we now turn to the first, human beings considered as a labor supply. Men are central in the economic process because their wants determine what is produced, their activities produce it, their arrangements control its production and distribution, and they themselves consume it. As was said in Chapter One, both the activities of production and the richness of consumption should have as their goal the well-being of man, conceived in the largest possible sense. At this point we are concerned with men solely in the relation pointed out by Mill, namely, as productive agents.

In the conventional classification frequently employed in treatises on economics, not two but four requisites or agents of production are given: labor, land, capital (better, capital instruments), and enterprise or management. Of these the first and the last are human activities. The first emphasizes the physical aspect, or rather the actual executory activities of production, like those of the unskilled worker, the carpenter, the locomotive engineer, the salesman, or the classroom teacher. The last considers human beings as planners and orderers of production; it comprises the activities of the businessman or of those who share in the direction and the risks of production. Labor in the first sense and labor as enterprise or management both come within Mill's category of labor as a requisite of production, and it may be plausibly argued that management is but a specialized form of labor. Nevertheless, the function of the planner or decision-maker differs so completely from that of the great body of laborers that failure to distinguish the two may lead to much confused thinking, and we shall here treat the duties of coordination or decision-making and of risk-taking, with all that they imply, as distinct from labor as commonly understood. Mill's omission of capital merely indicates his recognition of the fact that, given natural resources, man could and would create capital. In this chapter we are primarily concerned with labor in the first sense of the term, though much of what is here said would apply equally to management.

Malthus and Malthusianism

Early speculation about population concerned itself in no small degree with the number of the people as a source of military strength and of labor supply to their rulers. In premachine days the income of any man depended largely on the numbers whose labor he could command directly or indirectly, and in view of the sharpness of class differentiation, the upper classes looked on the number of the "laboring poor" much as they looked on the number of their draft animals. It was not until the end of the eighteenth century that population theory took on a more modern form, largely as a result of the influence of the English clergyman and economist Thomas Robert Malthus, who was interested in the limitations on the power of men to produce and therefore on the incomes which they could enjoy. His attention was drawn to the subject in connection with his consideration of William Godwin's celebrated book *Political Justice*. Godwin, essentially a philosophic anarchist, found the source of human misery in the wickedness and folly of governmental institutions. Malthus, on the other hand, was driven to the conclusion that no matter how much institutions might be improved, the fatal force of human multiplication was bound to bring about poverty and wretchedness. His great work, *Essay on the Principle of Population*, first published in 1798, set forth his views in a form that largely dominated discussion of the population question for a century.

His fundamental assumption was that man's power to produce could not increase as rapidly as the numbers of the population could increase. Given a fixed supply of natural resources, increasing population must bring increasing poverty. In brief, he held that population has a constant tendency to outrun food supply. What Malthus was saying was that production could never keep pace with men's wants. Poverty must be the rule of life. In America, he observed, over a period of one hundred years, population had doubled itself every twenty-five years. Such, at lowest, was evidently the capacity of human beings for multiplication, and at such a rate would population increase if unchecked. On the other hand, for the possibilities of food increase Malthus turned to Great Britain. Suppose that by some near miracle British farmers by 1823 should increase their product to twice what they were turning out in 1798. It was inconceivable, he believed, that during the quarter-century succeeding 1823 they should do better than add a further amount equal to that added in the first twenty-five years. Food supply under the most favorable circumstances could not do better than increase in arithmetical progression, while population tended to increase in geometric progression. The effect of the ratios when brought together is striking. In a century unchecked

population would have risen from 1 to 16; food supply from 1 to 5. But the effective check on population is want of food, which must result because the world is round, that is, is limited in area. Population, of course, cannot outrun food supply.[1] Men must eat if they are to live. Therefore, with births constantly adding more mouths than can be filled, numbers must somehow be kept down. This is accomplished by the positive checks of misery and vice, under which terms Malthus included famine, pestilence, and war. It is a grim picture, and it seems to put an end to all hope of serious improvement in the material status of the mass of mankind. Malthus, one of the kindest of men, was denounced as a heartless monster for trying to face the facts as he saw them.

Criticism of his position was at once forthcoming, and after five years of further study he introduced into his theory an important change. Population must be kept down by the positive checks unless it could be kept down by the preventive check of moral restraint, by which Malthus meant chiefly late marriages. In this form the doctrine completely lacked the sledge-hammer force of its first formulation, since it now admitted the possibility that population might be kept down by fewer births instead of by high death rates. However, the faith of Malthus in the possibility of any general practice of such moral restraint was not great. Malthusianism is perhaps not unjustly so named. It is the general doctrine that the growth of population everywhere and always tends to negative the results of material progress. Always there will be many people in the world living miserably, rather than a smaller number living in greater comfort. As was said above, the *Essay on the Principle of Population* had a profound influence on the nineteenth-century economists, and even today the fear of overpopulation occasionally plays its part in judgments with reference to the wisdom of various proposed policies. The accumulation of information since Malthus wrote, however, and the actual change in conditions of population increase, along with the vast additions to our potential food supplies, have shown clearly that whatever application his theory may have had in the preindustrial age, it does not picture the actual conditions of the modern industrial state.

Malthus could scarcely have been expected to foresee the modifications that the nineteenth century was to bring in the influences affecting the birth rate. The remarkable changes in the social condition of the working masses of the people (changes that he believed impossible), the revolution in the economic and social position of women, the consequences of urban conditions

[1]Malthus's argument on this point was strengthened by the development of the law of diminishing returns to agricultural land, which, with the law of population, became a fundamental element of the classical political economy.

in reducing births—above all, perhaps, the wide spread of the knowledge and practice of birth control—all these things have resulted in a great reduction of the birth rates in almost all advanced countries. On the other hand, scientific agriculture, with the machinery at command, has so multiplied the power to produce food that the proportion of the population required to grow food is but a fraction of the proportion required in 1798. Today few if any students think in Malthusian terms; efforts to stabilize, and even to increase, population by government action are to us familiar phenomena.

The Concept of Optimum Population

This does not mean that students are not thinking of the relation between population and natural resources, what is called the "man-land ratio." Now, however, they contemplate the evils of underpopulation, not those of the overpopulation predicted by Malthus. In 1790 the American people numbered about 4 million. In 1946 there were about 140 million. What caused the increase? And why, after three centuries of increase, does our population now seem to be approaching a stationary number? Such questions are important and difficult. They are not peculiar to the United States. Many countries have already witnessed the change from an increasing population to a stationary, or even a decreasing, one. A recent writer on population predicts that sooner or later every state will be compelled to take active measures to prevent a continuous decline of population.[2] This brings to the fore the question of the "right" relation of numbers of people and the total of opportunities for them to make a living. The concept of a "right," or optimum, population at first glance seems a simple concept, but the longer one scrutinizes it the greater appear the difficulties of giving it precise definition. Suppose we start with the simplest possible statement: the optimum population is that population which under existing conditions will yield the greatest per capita income. Does this mean that the optimum is that population which will yield the greatest per capita production of material goods and services? Obviously not, if we consider income as satisfactions. More satisfaction might accrue to a people from increased leisure than from a greater volume of goods. Here we have at once introduced intangibles impossible to measure. Suppose we vary the statement and define the optimum as that population which makes possible the greatest aggregate welfare. We are at once plunged into considerations of what is meant by aggregate welfare. These two examples should be sufficient to illustrate the obstacles which not only prevent any conclusions as

[2]Gunnar Myrdal, *Population: a Problem for Democracy* (Harvard University Press, 1940), pp. 174–178.

to actual optimum numbers for a given area but even prevent any formulation of a unanimously accepted standard whereby an optimum may be determined. They may suggest a reason why Professor Myrdal described the concept as "one of the most sterile ideas that ever grew out of our science."[8] Waiving for the time all such perplexing questions, we may do well to accept the common-sense conclusion that high per capita production will probably contribute to economic welfare, whatever we mean by that phrase, and that it will not lead us far astray if we accept it as our criterion of optimum. If, then, conditions in any country were such that a larger number of people would increase per capita production, we should describe the country as underpopulated; if a decrease in numbers would increase per capita production, as overpopulated. Plainly the concept is not a static one. The optimum number at any time would depend on the facilities for production at hand and on the knowledge of how to use these facilities. Changes of climate, soil erosion, the wasting of mineral resources—all those elements of change considered in the preceding chapter—would affect the optimum. The acquisition of increased mechanical skill and the accumulation of capital instruments, to be discussed in the next chapter, also shift the optimum. Massachusetts is more densely populated than Japan; yet we have heard much of the overpopulation of Japan, little of overpopulation in Massachusetts. Obviously the optimum number is not the same for the two areas.

Even this brief discussion should have made it evident that it is impossible to discuss men as productive agents without at the same time considering them as the consumers of the product. Malthus was contrasting the productive capacity of man and nature with the increase in the population which consumed the product. The concept of optimum population considers aggregate welfare as the ultimate test of the number of people to be desired, even if aggregate welfare proves difficult of definition. Present-day discussions of population problems bear upon men's needs and desires, as well as upon their contribution to production. The two aspects of life cannot be separated.

To this point we have ignored all population questions save that of actual numbers, yet the character of the population is of the greatest importance. Age and sex distribution, health and physical vigor, native intelligence, training and intellectual energy, habits of industry and ruling interests, all help to determine productive capacity. In addition, the laws of a country, for example, those relating to hours of work, to child labor, and to compulsory education, and the customs of the people, such as those influencing their mobility, the work of women or of married women, or the number and character of the holidays observed, are all germane to a study of the optimum as we have

[8]Gunnar Myrdal, *Population: a Problem for Democracy*, p. 26.

defined it. Indeed, they are all a part of any study of the population as a supply of labor. Clearly, in a single chapter few of these subjects can find space. Some will appear at later points in our study; others must be omitted from this volume altogether. Our first task is a brief examination of the numerical changes in our own population.

Population in the United States

During the seventy years from 1790 to 1860 the decennial increase of population in the United States varied between 36.4 per cent and 32.7 per cent; during the next three decades, between 26.7 per cent and 25.5 per cent. Since 1890 our population and its increase have been as follows:

Table III · Population of the United States, 1890–1980[4]

YEAR	MILLIONS OF POPULATION	PER CENT OF DECENNIAL INCREASE
1890	62.9	25.5
1900	75.9	20.7
1910	91.9	21.0
1920	105.7	14.9
1930	122.7	16.1
1940	131.6	7.2
1950	142.9 (137.0)	7.3
1960	149.8 (139.4)	4.9
1970	153.8 (138.4)	2.6
1980	155.2 (133.9)	0.9

These figures indicate not only that we are at the end of rapid increase in population but that we are approaching the time when, in the absence of unforeseen changes, our population will probably become stationary or will even decline. Of course all judgments must be highly provisional, but the guesses of our best experts are that we shall probably reach a maximum population not long after 1980, perhaps sooner. It is scarcely probable that the sharp increase in the birth rate at the beginning of the second World War was more than a temporary interruption of the trend. Since, for reasons already explained, we cannot determine with exactitude what our optimum population is, we are not certain whether we should view the probability of cessation of increase at about 155 million with alarm or satisfaction.

Such changes in population as are recorded in the table above result from the relations between emigration and immigration and between births and

[4]Sixteenth Census, 1940, *Population*, Vol. I, p. 6. The larger estimates are those of Warren S. Thompson and P. K. Whelpton, in *Population Trends in the United States* (1933), p. 1; the smaller, one among several hypotheses presented in *Problems of a Changing Population* (National Resources Committee), p. 24. The increase for the decade 1930–1940 predicted by Thompson and Whelpton was 8.4 per cent.

deaths. We may dispose of the former briefly. During our entire national existence down to the first World War we enjoyed a large immigration, chiefly of young persons. The total number was about 38 million, of whom 10 million entered during the ten years preceding that war. The expense of the birth and rearing of these young people had been incurred in the countries of origin. Transported here bodily in the prime of their working vigor, they contributed largely to our skilled labor supply, but more largely to the great body of unskilled labor required in conjunction with the rapid development of the natural resources whose attraction brought them hither. While their coming complicated many of our social problems, the rapidity and completeness of their assimilation into the unity that constitutes our national life is one of the marvels of world history. Save for the prohibition of Chinese immigration, which began in 1882, we kept our gates open until 1921. Three years after the temporary legislation of that year the number of immigrants who might be admitted from areas outside the Western Hemisphere was restricted to a specified quota ($1\frac{1}{2}$ per cent) of the number of persons of each national origin in the country. Our law is still on the quota basis. Immigration is now a closed chapter in American history. In the decade of the thirties more people left the country than came into it. The net immigration in the year 1941 accounted for only about one tenth of the population growth of that year, even though some American citizens who had been living abroad returned to this country and there was an influx of refugees. We are rigidly regulating the inward movement of population in what is conceived to be the national interest, and there is no reason to expect any significant change in our numbers from this source during any period that we can now foresee. The effects of our policy on the mobility of the labor supply the world over cannot be explored here.

Death Rates and Birth Rates

The significant relationship today is that between birth rates and death rates. In the United States, as in all other Western countries, a marked fall in death rates has occurred since the days of Malthus. The vital statistics of the United States have been notoriously defective, but our best authorities estimate that the expectation of life in this country has almost doubled in one hundred and forty years. At present the expectation of life at birth is in the neighborhood of sixty years for boys and is something more than two years greater for girls. We have added twelve years to the average span of life since 1900. The lengthening of the average life during the past hundred years, needless to say, is due to the progress of medical knowledge and practice and

the advance of public hygiene. While it is the commonplace of today's thinking, such progress represents one of the most important steps toward better living in the whole history of the human race. Certain important diseases, for example, smallpox, typhoid, yellow fever—scourges that raged unchecked a century ago—are practically wiped out. The beginnings of a genuine medical science that have come with the growth of microbiology and biochemistry have established a new basis for medical practice and private hygiene, and the achievements of the public-health movement, young as it is, are tremendous. From 17.6 per 1000 population in 1900, the death rate of the United States fell to 10.6 in 1944. This decline meant a saving of almost three quarters of a million lives in a single year. The saving, it should be realized, has occurred chiefly in infancy and childhood and young adulthood. To put the achievement on the baldly economic and not on the more broadly human basis, a century ago, to a far greater extent than at present, society was incurring the expense of bringing children into the world without reaping the benefit of their years of productive activity.

But while we have been cutting down our death rates and lengthening the average life span, there has likewise been going on a sharp decline in birth rates. Population experts estimate that our "birth rates in 1800 were about three and one half times as large as in 1930, and even as late as 1880 women were twice as prolific as today."[5] Moreover, the decline appears to be proceeding at an accelerating rate, largely, it is probable, because of birth control. Despite the decline of birth rates, however, the absolute numbers of births continued to increase until after the first World War, reaching a peak in the years 1921–1925.

Effect of War on the Growth of Population

The early effect of war is to increase the number of marriages and the birth rate. Two influences are at work here. The imminent entry of young men into dangerous service from which they may not return speeds many marriages which otherwise would have been postponed. In addition, the prosperity of the country as war production increases leads to more marriages among civilians. Along with the increase in marriages goes an increase in the birth rate. The years 1941, 1942, and 1943 saw a rising birth rate, which in 1943 reached 21.5 per thousand, the highest since that of 1925.[6] But these changes are temporary. When war is prolonged, young men are withdrawn from their families and the birth rate tends to fall to the prewar rate or less.

[5] *Problems of a Changing Population*, p. 23.

[6] Another influence should be noted here. The high birth rate of the early twenties brought a large number of young people to the age of marriage in the early forties.

The second influence in determining population increase—the death rate —tends to move sharply upward during any war. This is by no means solely the result of the numbers killed in action. Pestilence and famine are the traditional accompaniments of warfare. Influenza, typhus, malaria, and all the diseases resulting from undernourishment share in increasing the death rate the world over. To these scourges the second World War added the enormous destruction of civilian population from the air. All this the United States escaped. Conditions of health in this country were unusually good during the war years. While industrial accidents increased in number, automobile accidents were reduced with the decrease in traffic. Indeed, in the first year of the war the reduction in deaths on the road almost balanced the losses in action.

Since the increase in the birth rate is temporary and the death rate, in general, tends to increase throughout a war and in the years immediately following it, we may conclude that war reduces the population. For Europe this was undoubtedly the effect of the second World War, but not for the United States.

In considering the effect of war on population we are interested in changes in the quality of a people and in the composition of the group as well as in numbers. Here we are on more uncertain ground. There can be little doubt that war reduces the powers, both physical and intellectual, of many young men. They return to civilian life crippled in body and broken in spirit. On the other hand, some bring back an increase in the skills which accompany modern warfare, and apply their skill to peacetime production. These are intangibles which defy measurement. Deaths in action remove from the population young men in their productive years, thus increasing the proportion of the old, the very young, and those physically unfitted for fighting. Another possible aftermath of war is the preponderance of women in any given population group. This may reduce the productive powers of a country or it may bring more women into industry.

Age Distribution of the American Population

If the conclusion that the increasing birth rate of the forties was purely temporary is sound, we are, in the long view, faced with the prospect of the declining population indicated by Table III. This raises problems of production still unsolved. Some of these are related to our age distribution. We have always been a young people; the following table suggests that we are rapidly becoming a middle-aged and elderly people:[7]

[7]Varying calculations of this sort are being made, differing in exact figures but illustrating the same general points.

Table IV · Age Distribution per Thousand of American Population

	UNDER 20	20–60	OVER 60
1900	443	493	64
1935	368	541	92
1975 (estimated)	264	549	187

Out of a hundred persons in 1940, 35 were under twenty years old; by 1975 only 26 out of a hundred will be under twenty. Of every hundred 9 were above sixty; in 1975, 19 will be. In 1940 we numbered 132 millions, and 46 millions of us were under twenty; in 1975 we may have increased to 153 millions, but fewer than 41 millions will be under twenty. There will be an actual reduction of nearly 5 million young persons, while the number of persons sixty-five or over will have increased by some 8 millions, from 9 millions to 17 millions. We are just beginning to think seriously of the effects of such changes. They will mean fewer baby clothes and toys and schoolhouses and teachers, and vastly more provisions for the care of the aged. This is to say that our production of goods will be modified by the changing nature of the body of consumers. Much more important than the shift in the character of our production will be the probable changes in productive power. These changes will have one clear-cut meaning. After a time, not immediately, a smaller proportion of our people will be of working age. This will be an influence toward lessened production per capita, perhaps in small measure offsetting the forces of technology which are increasing the per capita production of workers.

The Labor Force

What is the present working force of the United States? Table V indicates that in 1940, of the 101 million between the ages of ten and sixty-four, 51 million were regarded as belonging to the supply of labor whether they were at work or not. Of those members of the population over sixty-five, two million belonged to the labor force. But 12 million women in the first group, out of a total of 50 million, and but 259 thousand women over sixty-five, from a total of four million, belonged to the working group. The labor of the third of our workers who perform the housekeeping of their own homes is undeniably of first-rate importance as a producing element in our society. The well-being of the individual family is contingent on the skill and intelligence with which the household manager performs her duties. But her activities in this capacity fall within the sphere of domestic economy, and not in the great co-operative scheme of production and exchange that relates the gainfully occupied in a

Table V · Population and Labor Force, 1930, 1940[8]
(In Thousands)

	POPULATION		LABOR FORCE	
	Age		Age	
1930	10–64	65 and Over	10–64	65 and Over
Men	46,625	3325	36,205	1838
Women	45,464	3309	10,670	252
Total	92,089	6634	46,875	2090
1940				
Men	50,882	4406	38,404	1854
Women	50,542	4613	12,716	267
Total	101,424	9019	51,120	2113

unified economic system. The census of 1940 reported the population as slightly under 132 million. Given in that year a total labor force of 51 million, we conclude that, roughly, ten persons out of every twenty-six were engaged in producing the living which we all enjoyed.

Some idea of the changes accomplished between 1940 and 1945 may be gathered from Table VI. In 1940 our armed forces numbered about 800,000; by December, 1943, they were close to 11 million. This change had to be accomplished without seriously depleting the civilian labor supply; yet the vast majority of these men must be withdrawn from industry. Within three years some 10 million were taken from workshops, mines, and farms and perhaps nine million new workers enlisted. The additions came from the unemployed, from groups of older men and women who had supposed that their working years were over, from children and young people, and, most important of all, from women not gainfully employed in 1940. In spite of these new recruits the number of the labor force, though not the number of employed, declined after 1940. At the end of the war it was about two million smaller than it had been in June, 1943. If we add the 11 million in the services to the 52.7 million in the civilian labor force of 1945, the total, 63.7 million, gives a rough approximation of the potential labor force of the country at the close of the war. An attempt at greater accuracy would demand some estimate of the number of temporary workers—older people, women, and children—who were in the working force only because of the war. To eliminate these might reduce the figure to the 60 million which has become the accepted symbol for full use of our productive power.

[8] Clarence D. Long, *The Labor Force in Wartime America* (National Bureau of Economic Research, Occasional Paper 14, 1944), pp. 9, 11.

Table VI · Growth of Employment, 1940–1945[9]
(In Millions)

	MONTHLY AVERAGE			JUNE		
	Total	Men	Women	Total	Men	Women
1940						
Labor force	55.0	41.7	13.3	56.2	42.3	13.9
Employed	46.9	36.0	10.9	47.6	36.4	11.2
1941						
Labor force	54.4	41.1	13.3	56.2	42.3	13.9
Employed	48.8	37.2	11.6	50.2	38.3	11.0
1942						
Labor force	54.5	—	—	56.1	41.1	15.0
Employed	51.8	—	—	53.3	39.4	13.9
1943						
Labor force	52.7	36.8	15.9	54.6	37.3	17.3
Employed	51.6	36.1	15.5	53.4	36.7	16.7
1944						
Labor force	52.6	34.8	17.8	54.2	35.5	18.7
Employed	51.8	34.4	17.4	53.2	35.0	18.2
1945						
Labor force	52.7	34.3	18.4	53.1	34.4	18.7
Employed	51.7	33.7	18.0	52.1	33.8	18.3

Population Quality: Heredity

As was said on an earlier page, questions of total numbers and of age distribution, fundamental as they are, make up only a part of the problem of population as it affects production. What is the quality of the people, physically, intellectually, morally? Their biological characteristics and capacities as transmitted from generation to generation constitute the substratum on which the whole of life must be built up. In the absence of biologically sound human animals, no richness of natural resources and no betterment of institutional arrangements can insure abundant production. Much nonsense has been written on the subject of eugenics, but competent authorities are humble in attempting to indicate possibilities of improving the human breed. It remains a legitimate object of inquiry, but for the purposes of economic study we have to take human stuff essentially as it is and see what can be made of it, just as we find ourselves obliged to plan economic life with due reference to existing natural resources, whether they be good, bad, or indifferent.

Further, in view of the well-known fact that the poor in the past have had larger families than the rich and the well-to-do, there has been a good deal of discussion, much of it ignorant and ill-informed, of an assumed negative selec-

[9] *Survey of Current Business*, March, 1942, p. S7; March, 1943, p. S8; June, 1943, pp. 30, S8; March, 1944, p. S9; March, 1945, p. S9; December, 1945, p. S9; *Monthly Labor Review*, August, 1943, p. 397.

tion whereby the best human strains tend not to perpetuate themselves. Everyone has heard of the small families of college graduates. The problem is one of real importance; it is economically no less than socially desirable for children to be born into families where they will start off with a sound heredity and will have a decent chance for education and economic opportunity, but we are as yet by no means clear which are those families. The population subcommittee of the National Resources Committee concludes its discussion of this question with the following common-sense observation:

"The best guarantee of sound biological and social national development would appear to be a situation in which the determining factors in size of family would be not ignorance, isolation, or indifference as contrasted with ambition and anxiety, but interest in child life and ability to provide favorable environment for child development."[10]

Population Quality: Health

The quality of a population, however, is by no means wholly a matter of hereditary characteristics. The practices and institutions that we call civilization largely represent social effort to make better human beings out of given human material. We have already suggested something of the accomplishments of hygiene and medical science in the field of physical improvement, but we have not indicated the vast territory that remains to be occupied, nor have we pointed out clearly the significance of such betterment for the process of production.

At this point we are looking at a man as a producing agent, just like a power plant, a transmission mechanism, or a loom. The expense of his birth, nurture, and training are social costs of production. Once he is trained, he represents a substantial social investment, some part of which is lost if he fails at any time to function with full efficiency, or if he dies before rounding out his full working cycle. It has been estimated that to bring a child to the age of eighteen represents an average outlay of $10,485, with no account of the cost of education provided by the community or of the mother's time. All questions of suffering aside, therefore, and all costs of the care and treatment of the sick being disregarded, the effects of illness and untimely death on production are clearly important. Every death in childhood, youth, or young maturity means a loss of possible production, while all illness, especially that of chronic nature, during the period of working life, cuts production, because it means that the ill person as a working machine either is working below capacity or

[10] *Problems of a Changing Population*, p. 165.

else is not working at all. Because we are so accustomed to them, few of us realize the losses of production involved in illness, much of it preventable, and fewer still realize the immense profitableness, in consequence of the resultant increased production, of generous well-directed expenditures for the prevention of illness and the improvement of public health. It is sufficient to mention the gains in production possible through the elimination or control of tuberculosis, syphilis, malaria, pellagra, hookworm, and the host of diseases of undernutrition, or enteric diseases transmitted by milk, water, and other carriers that we are just beginning to detect.

To reduce the toll of death by accident is equally important if we are to achieve our utmost productive power. Every day in the United States we kill or injure some 11,000 people. Many of these accidents are entirely preventable and represent wanton waste of our most valuable resource. The causes of most factory accidents are not far to seek: fatigue, ignorance and inexperience, carelessness, inadequate inspection, and failure to enforce legal safeguards all play their part in piling up the tragic total. Proper conditions within the plants would save many lives; others might be saved by persistent education against carelessness. In the long view industrial accidents have declined and will continue to do so. Not so with accidents on the road. The automobile is still a deadly weapon. Even with the reduced driving 46,000 people were killed in motor accidents in the two years following the attack on Pearl Harbor. Though students had long estimated the losses through acute illness and accidents at not less than 5 per cent of the normal productive capacity of the nation, the general public displayed little concern until the unprecedented needs of the second World War threw into sharp relief the effects of illness and accident on the volume of production. This estimated 5 per cent, it is to be observed, takes no account of losses of possible production due to chronic disability.

The measurable losses of production are sufficiently impressive without any attempt at exact assessment of the total impairment of productive power occurring in a nation where, to quote the Technical Committee on Medical Care, "every year 70 million sick persons lose over one billion days from work or customary activities," and where, as indicated in the preceding sentence, other millions are daily working below their capacity, because of lack of health and energy. In thinking of human beings as productive agents, therefore, one should think always of the physical health and vigor that they enjoy. An intelligent society will regard such health and vigor as one of its chief economic assets, and will realize the economic waste involved in any failure to make ample provision for the physical upbuilding of its population in accordance with the best available scientific knowledge.

Population Quality: Education

The capacity of a man as a producer, however, depends not alone on his physique, but on his intellectual endowment and his training, of both hand and head. Such training is provided by a great variety of individuals and agencies, formal and informal. We can do no more than touch on a single one, the school, which will sufficiently illustrate our main point.

In the field of intellectual training, Americans have displayed an extraordinary faith in the possibilities of formal education, and we are consequently engaged in an experiment of interest and importance. The Supreme Court of New Hampshire, in somewhat halting English, once stated our theory thus:

"The primary purpose of the maintenance of the common-school system is the promotion of the general intelligence of the people constituting the body politic and thereby to increase the usefulness and efficiency of the citizens, upon which the government of society depends. Free schooling furnished by the state is not so much a right granted to pupils as a duty imposed upon them for the public good."

Free public education, that is to say, is provided not simply for the gain of the young person educated but for the benefit of the whole society. The "usefulness and efficiency of the citizens," it must be recalled, depend in no small degree on their competence as producers.

In pursuing our aim of training citizens, we have long since passed beyond the common school. Not only do we now require all children to go through the grades, but we have come to take it for granted that everyone is entitled to high-school training. The spread of secondary education in the United States during the past half-century is astounding. In 1890 only 7 children out of 100 of high-school age (14–17) were enrolled in public and private high schools. By 1910 the proportion had risen to 15; in 1930 it was above 50; and in 1936, 62 out of 100, or well up toward two thirds of the whole number, were enrolled. The willingness of American communities to tax themselves for school purposes is extraordinary. Nor has our enthusiasm reached its limit with the high school. In our eagerness to provide opportunities for the better-than-average person, and thereby to enable him to contribute more efficiently to the common welfare, we have poured out both public and private funds lavishly for colleges, universities, and advanced technical and professional schools of every description.

We are properly critical of the result of our efforts, yet without question the income of the people of the United States has been greatly increased by the widespread opportunities for popular education, the consequent spread of

knowledge, and the resultant increased development of the intellectual capacities of our citizens. Furthermore, in each generation large numbers of richly endowed young people have found opportunity for the extensive training they were capable of utilizing, and because the American tradition has been one of work rather than of elegant leisure, and because we have admired material achievement, their activities have gone in large measure to swell the flow of goods that have made up the American income.

Population Quality: Character and Institutions

Needless to say, the formal educational system is but one of the many social forces that make us all what we are. The family, the church, voluntary organizations of all kinds, government in all its ramifications—these and all other social institutions are forever helping to set standards of conduct and in so far to determine the kind of people we shall be. The customs, habits, beliefs, ideas, superstitions, and ways of doing things that prevail in any society set their mark inexorably on every new human being born into it and help make him the kind of man that he becomes. It is not alone physique and mind, whether trained or not, that determine his value as a producing agent. The qualities and habits that make up his disposition and character are important. Partly they are individual matters apparently born in the child; partly they are results of the whole complex of social forces to which he is subjected from birth. In consequence, one man is a good worker; another is almost useless. With all their likenesses and differences of body, mind, and spirit, the fifty or sixty million men and women of the United States who collectively make up its laborers constitute the great productive force, indeed in one sense the only productive force, in its economy, although their productive power depends largely on their skill in harnessing nonhuman forces, and their production to no small extent on the abundance of nonpower natural resources. In our efforts to improve the quality of the people as producing agents we should do well to remember the words of Professor Pigou, who speaks thus of a wise ruler:

"He would take a leaf from the book of Soviet Russia and remember that the most important investment of all is investment in the health, intelligence and character of the people. To advocate economy in this field would, under his government, be a criminal offence."[11]

[11] *Socialism versus Capitalism* (Macmillan & Company, Ltd., 1937), p. 138.

CHAPTER SIX

Technology and Production

THE PLENTIFULNESS of production, we have already seen, is dependent on the quality and intensity of men's labor and on the natural resources with which they work. It is also dependent on their technology, under which term we include (1) their knowledge of the industrial arts and (2) the capital instruments in which much of that knowledge is embodied. Knowledge has transformed into valuable resources many natural products once useless to man; it has made men far more efficient producers in their own persons; it has given them machines of well-nigh unlimited productive capacity. Knowledge and technical skill we do not call factors of production. They are qualities of man, by means of which he becomes a more efficient producer. Their most striking present manifestation is the machine and power technique that dominates our productive processes.

Technology as Knowledge

Efficiency in production has increased from the first emergence of man on the planet to the present day, and has increased at an accelerating rate; the advances of the past two hundred years surpass those of all previous time. The basic cause of advance in production is the advance of knowledge. Men know more, and therefore produce more. They could not have iron plows until they had learned how to smelt and fashion iron; they could not have steam engines until they had learned the properties of steam and had devised practicable methods of imprisoning it and making it work for them; they could not have modern power plants until a long series of physicists, inventors, and engineers had penetrated a little way into the mystery of electricity and had learned how to harness it to do their will. They could not have atomic energy until they had learned how to split the atom. The progress of technology is dependent on the advance of both pure and applied science.

Technology must be thought of as embodied first in the education and the everyday practice of those who direct industry. The ordinary farmer in the Middle West today knows as a matter of course a body of fact and farm practice completely unknown to the best agricultural experts of his grandfather's

day. Call that grandfather back from the grave, give him the equipment and resources of today, and let him operate the farm on the basis of the meager knowledge of soils, of crops, of stock, and of farm practice that were enough to make him a good farmer half a century since; he would be bankrupt in five years simply because he would not know enough to farm today. His grandson is no better man than his grandfather was, but he is a far better farmer. In the same fashion, knowledge as well as equipment has been advancing in every field.

Fortunately the results of knowledge can be made available to the many, though the knowledge itself is confined to the few. So everyday a matter as weather forecasting supplies pertinent illustrations of this. The aid rendered to growers of citrus fruits by foreknowledge of falling temperature, the protection of shipping by storm warnings, the reduction of threatened damage by flood, are commonplaces. Less familiar is the service rendered to many manufacturing industries by correct weather prediction. Candy-makers avoid shipments when a heat wave is on the way; canning companies, when unusual cold is prophesied.

Knowledge, it is to be observed, is far more important than machines. Destroy machines, and men would quickly replace them; destroy knowledge, and men would revert to the poverty and barbarism from which, as the outcome of ages of struggle, they have partially emerged. Most of our present knowledge has been acquired recently. Wipe out only the learning gained during the past two hundred years, and a considerable proportion of the people of Western countries would die, for the simple reason that they could not feed themselves. Those two hundred years have witnessed almost the entire development of present-day physics, chemistry, and biology; of present knowledge of medicine, both curative and preventive; of the whole body of knowledge on which rests our present machine and power technique. Two hundred years ago no man knew how to develop and harness (except for trifling water mills) the power in coal, oil, gas, and falling water; no man knew how to utilize it when harnessed. Life and work have been made over because of the growth of knowledge within that period, and because of what that growth has brought with it.

Happily, the increase of knowledge and its technical application have now become vested interests in their own right. Such interests, indeed, are not pursued in entire disregard of industry; yet they produce impacts on industry often unanticipated, and sometimes wholly undesired. Our universities, our technical schools, our research foundations and laboratories, both public and private, announce day by day new discoveries in the fields of physics, chemistry, and biology. Some of these discoveries, purely scientific and at first

apparently remote from practical application, later turn out to be of profound industrial importance; others are seized upon immediately as a basis for turning out more or better goods at lower costs. Be the application immediate or remote, the "search for truth," to employ the scholar's idealistic phrasing, goes on without cessation; and without cessation new powers, new combinations, and new possibilities are uncovered, of which industry eagerly takes account, of which indeed it must take account soon or late, whether it will or not. The process gives no indication of slackening; on the contrary we see it going forward on a constantly broadening front and with revolutionary results.

The accelerating progress of technology, however, is due by no means chiefly to the discoveries of the scholar in his lonely pursuit of truth and to the activities of the traditional inventor in his garret, forever driven by the creative urge. Research has become a blessed name in industry itself. Private industrial concerns and government agencies alike have their research laboratories and organizations, some of them expending millions of dollars annually, all of them together adding greatly year by year to the body of information and understanding available to those who produce goods. While their major interest is inevitably in applied knowledge, many present-day advances in pure science come out of such laboratories as those of the Bell System, the General Electric Company, the Du Pont industries, and the Department of Agriculture.

A study by the Works Progress Administration suggests the extent of research by industry itself before the second World War.[1] From 1920 to 1931 industrial research laboratories increased from fewer than 300 to almost 1600, and their annual expenditures from $25,000,000 to $120,000,000, both numbers and expenditures subsequently declining somewhat. Naturally research is most common in the industries that are making the most rapid technical progress, like those concerned with electricity, chemicals, petroleum, rubber, and automobiles. About one half the research personnel is found in seven industries; and one fourth, in electrical industries alone. Further, the largest growth in research has been in mass-production industries, where production is concentrated in large enterprises. Of 147 concerns maintaining research laboratories continuously since 1920, apparently 4 employ about as many research workers as all the remaining 143 put together. Mr. Charles F. Kettering, who heads the General Motors research division, speaks of it as "an insurance policy which insures the company that it will be kept technically up to date." Of the $1,200,000 annual budget of the division, about 40 per cent covers consultation service to the research branches of subsidiaries; 40 per cent, advanced engineering; and 20 per cent, research in pure science,

[1]See *National Research Project on Reemployment Opportunities and Recent Changes in Industrial Techniques; Summary of Findings to Date*, March, 1938.

or "long shots" that may yield "practical" results, perhaps in twenty years, perhaps never.

The contributions of the government to the advance of the industrial arts, too often taken entirely for granted, could be illustrated by innumerable examples. The research carried forward by the Department of Agriculture and by similar bureaus in many of the states is constantly adding to our productive capacity.

The preceding paragraphs have merely suggested something of the impressive body of scientific and technical research that is being prosecuted in thousands of nonindustrial and industrial laboratories all over this country and all over the world; for science is international not only in its methods but in its effects on industry. The continuing discoveries of new facts and new relations inevitably change both the methods and the machinery of production, always in the direction of increasing the productiveness of labor.

The results of this unremitting search after knowledge are embodied in the minds of men and in the machines which they make. Men, as the productive factor treated in the preceding chapter, are enormously more efficient because of the accumulated knowledge and skills handed down from generation to generation. By means of their knowledge and skill they have created the capital goods which made present-day mass production possible.

Technology Embodied in Capital Goods

According to the more conservative estimates of the anthropologists, human beings have lived on the earth for perhaps half a million years. During nearly all that time they have been dependent almost exclusively on human labor, aided by hand tools and implements, for the making of whatever they wanted. Meanwhile the race has slowly and gradually adjusted itself and its institutions to conditions of working and living that rested on an unchanging basis and themselves changed only over centuries, with painful slowness. The men of 1750 A.D. had, indeed, learned much more about ways of utilizing labor than the men of 500,000 B.C.; yet fundamentally the amount of goods they had was dependent on the amount of labor they could command, just as had been true half a million years earlier. During that time, change necessarily moved with leaden foot. Then came the machine. The machine, and the use of the powers of nature to drive the machine, changed a comparatively static world into a dynamic one. It transformed a relatively stable life into one whose conditions change with bewildering and apparently increasing rapidity. It has completely made over the conditions both of living and of making a living.

Though the first steps in this progress were slow, they must not be ignored. Men early learned the advantage of the indirect application of their labor (through making tools first) over its direct use in satisfying their wants. Even primitive peoples shaped the stone ax, fashioned the bow, chipped the flint arrowhead, built snares and traps to catch their prey, hollowed out canoes for transportation. As they learned the rudiments of agriculture they devised simple tools and implements to aid them in cultivating the ground and in harvesting and threshing the crop. During the most of human prehistory and history they had only hand tools and implements which made use of human energy and were controlled directly by human will and muscle. In addition, they had a few relatively simple devices for utilizing the power of animals, falling water, and wind, of which devices the sailing ship was far and away the most remarkable.

In every instance the indirect application of labor to available resources yielded a larger amount of the desired product than did the direct. Men got larger crops or more game by devising first a rude hoe or sling than by digging with a pointed stick or knocking their prey over with a club. Such primitive tools and weapons are among the earliest of labor-saving devices, or, more correctly speaking, of devices for making labor more productive. They are simple examples of that great category of goods called capital goods or capital, to employ that much-abused word in one of its many senses. The concept is that of the produced means of production, as contrasted, on the one hand, with natural resources in their native state and, on the other, with consumers' goods. For this concept we prefer the term "capital instruments" or "capital goods," but it is important to remember that the word "capital" is also frequently used in this sense.[2]

The machine era may be said to have begun in England in the second half of the eighteenth century, with the great inventions in the textile industry, the smelting of iron with coal, and the use of the steam engine. From that time forward, production became dependent on machines and the practically limitless resources of power available in the forces of nature—in coal and oil and falling water, and perhaps, in future, in tides and the sun and atomic energy. Before that period there existed, and could exist, nothing comparable to our present means of production, our wealth of machines and factories, our prime movers and instrumentalities for the transmission of power, or our transportation agencies, such as railroads, highways, and steamship lines, with all the equipment forever moving over them.

[2]The practice we prefer is a compromise solution of a terminological problem to which no wholly satisfactory answer is possible. It should be noted that we sometimes use the less exact terms as the equivalent of capital instruments.

Power

The capital instruments that differentiate the modern era from all preceding time fall into three groups: (1) devices for the development and transmission of power; (2) devices for utilizing power in the production of goods; (3) precision implements. In Chapter Four we dealt briefly with our chief power resources, namely, coal, oil, natural gas, and water power. To these, doubtless, nuclear energy will be added in our lifetime. The most important capital instruments for utilizing those resources are the steam engine, the internal-combustion engine, the turbine water wheel, the gas turbine, and the machinery for the generation and transmission of electricity. When Watt in 1764 made a success of his condensing steam engine, he called into existence the modern factory in its earlier form, the railroad, and the steamship. The succeeding hundred years may not incorrectly be thought of as the era of steam power, though falling water furnished no inconsiderable part of the energy that moved the machinery of the early factories. The distinctive characteristic of the power of this period was that it had to be used where it was generated, being transmitted directly by the cumbersome apparatus of shafting, pulleys, and belts to the machines that it operated. Practically speaking, each establishment had to have its own power plant, and none could be more than a stone's throw from the spot where its power came into existence. The steam locomotive and the steamship, with their portable power plants, provided the new transportation made necessary by the increased geographical specialization that became so conspicuous a feature of the period. It is small exaggeration to say that during its century of supremacy the steam engine made the industrial world over.

Then came electric power to make that world over again. The power plants of today, whether operated by steam or by falling water, create electric power, with its possibilities for long-distance transmission and its adaptability to the most various needs. We do not have a new source of energy; we do have a new method of developing and transmitting energy that has made the old-fashioned steam plant of the preceding paragraph almost extinct. This new method has marvelous new capacities. Today we generate power cheaply wherever conditions are favorable—it may be at a great waterfall in a wilderness—and transmit it on a wire wherever it is wanted. Our high-tension lines carry the lightnings, to be stepped down at convenient stations to practicable voltages and distributed in exactly the amounts wanted at exactly the times wanted, to be turned on and off at the pressing of a button or the throwing of a switch, to be gathered in thunderbolts if desired, to be divided and subdivided until each separate machine in a factory or each trifling domestic ap-

pliance, with its separate connection, receives just the amount of current it requires. The flexibility of such power passes imagination. It is a thing so different from the awkward clumsiness of steam that the two scarcely deserve the same name.

The internal-combustion engine also deserves brief mention. In the form of the ordinary automobile engine, using gasoline, and of the Diesel, utilizing crude oil, it has made oil a practical source of power in small units, and, what is more important, has made a portable and flexible power plant universally available. Almost thirty million automobiles, busses, and trucks, and the tractors that are now displacing horses in farm use, tell the story of a power revolution only less interesting than that which has come with electricity.

Our present capital instruments for the development and transmission of power thus include steam engines of every kind and size, installed chiefly in the powerhouses of central power systems or of industrial concerns that generate their own power, but also in our locomotives and steam vessels. They include internal-combustion engines, most of them small separate power plants, but aggregating an enormous total. They include immense dams, with their installed works in which the turbines ceaselessly turn. And at the next stage, as a part of practically all important steam and water plants, they include electric powerhouses, with their equipment of generators, and the apparatus of transmission and distribution. The wires of our central power systems extend over hundreds of miles; from their distributing stations power is conveyed to each separate house and shop and factory, and to each in exactly the amount required to run each separate machine or fixture the exact length of time that it is in use. Taken all together, it is an impressive machinery that we now have for the harnessing of the power provided by nature, and it is certain to grow more impressive in the next quarter century.

Machine Technique

No less impressive, and far more varied, is our machinery for utilizing power in turning out goods. There is no need to rehearse the story of invention and improvement of machines. It is so familiar that it has become commonplace, and yet every day records new marvels. From the beginning, machines not only have done for men what men formerly did for themselves, but have performed feats of strength and endurance that no man and no combination of men could match, and have repeated those actions day after day and year after year with a uniformity beyond human imitation. The process of invention seems to continue with accelerating speed. When the Federal government was established one hundred and fifty odd years ago, it required the

concurrent action of three cabinet officers, who were under obligation to examine the claim themselves, to grant a patent. The Patent Office during its first decade (1841–1850) granted the respectable number of 5942 patents. Decade by decade the number rose, to 423,361 during 1921–1930. Over a period of eighty years our population multiplied less than sixfold; the number of patents granted, seventyfold. During the first third of the present century 1,330,000 patents were issued, twice as many as in all our preceding history.

As the technique of machine-building advanced, so did the accomplishments of machinery improve. They have attained to a fineness and delicacy of operation far beyond anything of which men themselves are capable. Instruments have been built that will measure a millionth of an inch. In machine operation such exactness has been attained that in some divisions of the automobile manufacture tolerances of one ten-thousandth of an inch have been established. A machine is in use today that actually sorts out screws differing from one another by only one one-thousandth of an inch. The accomplishments of modern machinery in respect to precision operation are unbelievable, yet progress continues without cessation. Furthermore, automatism in machinery has been carried to such a point that we now have machines that control other machines, and control them better than human governors could do. The thermostatic control of an ordinary furnace is a simple example. The development of instruments for the automatic control of industrial processes makes one of the fascinating chapters of the economic history of the period between the two World Wars. Indicating instruments like the ordinary thermometer of course have long been used in industry. By the beginning of the present century recording instruments came into use which made a complete record of such things as flow, temperature, pressure, humidity, or liquid level through all the stages of a process, thus furnishing the data for the establishment of standard practice. This done, but one step was required to pass from manual to automatic machine control, and during the past quarter century remarkable progress has taken place in the installation of controlling instruments, notably in the metals, power, petroleum, chemicals, and other process industries.

The rigid control of production conditions through instrumentation is of course favorable to further mechanization, and each step in the process helps forward further progress in the direction of that completely automatic operation which would be the ideal of the machine process. The speed with which "controllers" have come is suggested by a few figures. The value of industrial instruments produced increased elevenfold from 1909 to 1929, and from 1919 to 1935 expenditures for instruments in industry increased four times as fast

as for machinery. Of the new instruments sold in 1923 only 8 per cent were controllers; in 1935, 33 per cent. A single example will suggest the increase of technical effectiveness resulting from the use of automatic governors. A Western railroad, by installing five boiler meters in its shops at a cost of $4800, cut fuel consumption from 90 to 57 tons a day, thus saving $24,000 a year.

Processes change no less than machines, and call into existence new machines. Petroleum technology changes almost from month to month. The amount of gasoline recovered from a given volume of crude oil has been increased threefold, as earlier stated, and today it is said that by combining what is already known of distillation, cracking, and hydrogenation it would be technically, though not yet commercially, possible to produce 105 barrels of gasoline from 100 barrels of petroleum. As for fertilizers, a fear of a nitrogen famine was dissipated with the increasing use of the Haber process after 1917. More than half the world's nitrogen supply is obtained today by fixation of atmospheric nitrogen, and the chemists have likewise enormously improved the production of potash. The whole fertilizer industry may well be on the eve of revolutionary improvements. In dozens of fields the chemists are actually remaking industrial processes, and in so doing are calling completely new industries and products into existence. Among the latter it is enough to mention rayon, cellophane, nylon, and all the other cellulose creations whose practical possibilities technicians and businessmen are just beginning to explore; bakelite and the whole family of synthetic resins and plastics that are today providing us with materials of an excellence and cheapness unknown twenty years ago; alloy steels in endless variety; new paints, varnishes, and lacquers of extraordinary beauty and durability; glasses and ceramics previously nonexistent; solvents; detergents; in short, thousands of new finished products and materials, things of utility and beauty, created since the first World War. Each demands new machinery and equipment for the making. A significant aspect of modern industry is the continuing speed with which all this happens. In the introduction to *Technological Trends and National Policy* Professor Ogburn pointed out that almost the whole development of the six great industries built on the telephone, the automobile, the airplane, the motion picture, rayon, and the radio had taken place in the present century. The production of synthetic rubber and the enlarged industrial activities built upon "electronics" may be added to the number of recent industries.

Economic Problems of Technology

Of what concern is all this to the economist? Has the character of the economic problems of organization and control changed as the scientist has

shown men how to achieve greater mastery over nature? What present difficulties are the result of the advance of machine technique and the substitution of indirect for direct processes of production? Successful organization of production must be adapted not only to men and land but to technique as well. Rapid changes in technique commonly call for corresponding changes in organization; a dynamic technology requires a dynamic economic system if production is constantly to attain its full possibilities. We can indicate here but briefly a few of the economic results of our technological development. Many of the chapters which follow consider in detail characteristics of our present society that arise, at least in part, from modern technology and its rapid change.

The Choice of Methods and Machinery · The most important duties of management, termed in Chapter Five the fourth agent of production, are largely determined by the state of technology. Today's technology requires the building up and maintenance, the constant renewal and replacement, of an ever-growing body of capital instruments. These must be of the particular kinds best adapted to the technical requirements imposed by the existing state of knowledge and practice. The foregoing paragraphs will have served their purpose in some degree if they have suggested the highly dynamic character of the process of capital creation, maintenance, and replacement, and the importance and complexity of the long-range decisions required of those responsible for the direction of industrial operations. As technological changes become more rapid these decisions become increasingly difficult. If tomorrow's flow of consumers' goods is to be as large as possible, then today's decisions as to the amount and kind of capital instruments to be made today must be wise decisions. Labor devoted to making *today's* capital instruments, useful only in making *tomorrow's* consumers' goods, cannot be employed in making *today's* consumers' goods. Plainly the interests of the community are best served by the largest attainable flow of consumers' goods both today and tomorrow. They therefore require wise decisions as to the division of available labor between the production of today's consumers' goods and that of the capital instruments that will serve tomorrow's needs. They require decisions of almost superhuman wisdom as to the kinds of capital instruments and the amounts of each kind that probably will best meet the needs of tomorrow in view of the rapidity of technical change. Such decisions at the present time rest chiefly in the hands of businessmen. Many of the most important and most puzzling questions faced by the student of economics concern the methods for getting those decisions made as wisely as possible in the general interest. In approaching those questions it is essential to keep in mind, as one of the important

realities on which social well-being depends, the immense mass of capital instruments in existence and the function that they serve, the process of depreciation and obsolescence that perpetually goes forward, the corresponding process of renewal, replacement, and increase that must be carried on, and the decisions that this process demands.

The New Producing Unit · To speak of machine industry as responsible for the large scale of present production is to suggest the veriest commonplace, but the results which flow from large-scale production are far from commonplace and are not always recognized even today. The steam engine substituted the factory with its machines for the small shop with its hand tools; it substituted, as an organized and organizing unit, the railroad with its enormous equipment operated over a rock-ballasted right of way in place of the cart painfully dragged over bottomless roads by animals with a single driver. To use the suggestive phrases of Karl Marx:

"The collective labourer, formed by the combination of a number of detail labourers, is the machinery specially characteristic of the manufacturing period."[3]

In manufacturing and transportation, when industry became dependent on steam, the productive unit, once a single individual with a primitive instrument, became a great mass of diverse but properly related capital instruments operated by an appropriately diversified but properly related body of workers, and all under a single unified control. The productiveness became the productiveness of the undertaking as a whole, not of any individual connected with it, whether water boy or president. This situation, be it noted, was the result purely of the technical requirements of the productive process and was in no way dependent on the economic system prevailing. It holds just as truly under communism as under capitalism—or under cannibalism or any other "ism" that employs machine technique.

Within the producing unit itself, once more, the prevailing technology largely determines the modes of labor and the methods of co-operation. The steam-driven cotton mill required dozens of different kinds of workers, from overseers and skilled weavers to bobbin boys and floor sweepers; required them in fairly definite proportionate numbers; required their working in certain ways dictated by the machines they controlled and served, and in certain relations to one another dictated by the needs of the productive technique itself. The same thing was true of every mechanized industry and establishment, each in its own peculiar fashion. Division of labor had not previously

[3] *Capital* (Modern Library, Eastman ed.), p. 80.

extended much beyond the specialization of occupations, such as those of the farmer, the carpenter, the weaver, and the merchant. With the introduction of the machine, manufacturing operations were broken up into their separate processes. Workers became largely men responsible for feeding, overseeing, or taking care of particular machines that performed particular processes. Thus machine industry, in creating large-scale production, has also vastly increased the specialization and co-operation necessary among workers and has changed the character of the unit of production. It might be more accurate to say that the necessities of machine production have given us two types of contemporary producing units, one large, one small. In so doing they have brought about the development of corresponding types of business organization. The factory, the mine, the railroad, requiring large production units, have required corporate organization. The farms, the retail stores, the service industries, even when they are highly mechanized, have not required large producing units and therefore operate under a different form of business organization. These differing organizations furnish the subject matter of Part Two.

Location and Scale of Industry · Steam power required the worker to work close to the place where power was generated, since it could not be transmitted more than a few hundred feet at most. The dense concentration of population that characterized the nineteenth century was the outgrowth of a steam technology. Electricity and the internal-combustion engine have now brought not only a new technology but a new freedom of action. No longer must manufacturing industry huddle in immediate proximity to the steam engine that drives it, and suffer the consequent smoke, dirt, and crowding. So far as technical requirements go, we may place industry today where we will. Further, in many lines of production we are under no technical compulsion to have large factories unless we want to. Americans worship bigness, often to their own disadvantage, and as yet we are making only the earliest beginnings in realizing the possibilities of relatively small-scale industrial production intelligently directed, and carried on with electric power. The obstacles to such undertakings appear to be largely man-created economic obstacles, not difficulties of a technical character. If we want to, we are apparently free today, as far as technology goes, to enjoy the advantages not only of geographical decentralization of industry, but of the decentralization of initiative that is clearly one of our present needs. It is indeed this new technical freedom that in no small part lends such surpassing interest and importance to the economic controls we impose on ourselves.

There is no intention, in what has just been said, to suggest that electricity means the end of the large factory, or that such ending would be desirable.

Nothing could be further from the truth. The labor economy of mass-production methods properly applied and the wonders of the modern assembly line are gains not to be attained without large production units. Where such units are required for technical efficiency, there they will persist and develop, under whatever economic system, and there is every reason to anticipate such further development, with intensification of the many special economic problems that it brings. The very freedom of action emphasized in the preceding paragraph therefore means that the technical organization of the future is likely to be even more diversified and complex than that of today, and that it will therefore become progressively more important to develop our economic institutions in such a way as to insure the full and continuous functioning of that organization.

Machinery and Labor Productivity · In making the worker only a part of a larger producing unit, machinery has also made him a far more productive worker. Everywhere in our economy there is evidence of increasing productivity, of growing technical effectiveness. It has been estimated by the Works Progress Administration that, for our economy as a whole, productivity per man-year rose by 45 per cent from 1920 to 1935, and this with a great shortening of hours. Out of forty-five industries studied, only two small ones showed a decline of productivity from 1919 to 1929. Five showed average annual increases varying from less than 2 to 6 per cent, sixteen from 6 to 10 per cent, and four, annual increases in excess of 10 per cent. During the succeeding six years five industries showed a decline in productivity, while six showed annual increases of less than 2 per cent, twenty-two from 2 to 6 per cent, eight from 6 to 10 per cent, and four in excess of 10 per cent. Railroading is often, though mistakenly, thought of as a moribund industry; yet during the first quarter of this century it nearly doubled its output per man-hour. The electric-power industry increased the number of kilowatt hours distributed per man-hour of employment by more than one half in the seven years from 1929 to 1936. According to the *Monthly Labor Review* (March, 1930), from 1919 to 1927 man-hour productivity rose by 55 per cent in iron and steel, 15 per cent in boots and shoes, 38 per cent in leather-tanning, 29 per cent in slaughtering and meat-packing, 86 per cent in petroleum-refining, 33 per cent in pulp- and paper-making, 53 per cent in cement-manufacturing, and 71 per cent in sugar-refining. When we look at war industries, we find such spectacular figures as that of 200 per cent, the increase in output per man-hour in airplane plants, attributed to mass production of standard designs, with minute specialization of machines and labor. In the building of Victory ships the labor requirements were reduced by 50 per cent during the progress of the war. Index numbers

of the physical volume of production per capita for total population and for wage-earners illustrate the same changes:

Table VII[4]

Volume of Production per Capita

1890	85.9	1910	119.1	1930	154.8
1900	100.0	1920	134.1		

Production per Wage-Earner

1899	100	1925	154	1931	147
1914	116	1929	164	1937	156

Machinery and Leisure · All this has been accompanied by a great shortening of the working day. Mill might with truth say in 1848:

"It is questionable if all the mechanical inventions yet made have lightened the day's toil of any human being. They have enabled a greater population to live the same life of drudgery and imprisonment, and an increased number of manufacturers and others to make fortunes. They have increased the comforts of the middle classes. But they have not yet begun to effect those great changes in human destiny, which it is in their nature and in their futurity to accomplish."[5]

Today no such comment could be made. One great change which it is in the power of the machine to accomplish has already largely come about. The worker who worked from daylight to sunset has given way to one whose customary day is eight hours, and whose week is no longer six days but five and a half or even five. While there are still workers whose hours are too long for health and well-being, they are rapidly becoming the exception. Society as a whole recognizes that the machine has banished the need for the overlong working day and that it is better for all that no group should be deprived of leisure to live. Legislation is rapidly acting on this recognition, and forty hours bids fair soon to be the accepted working week, though, for a time, progress toward this goal was interrupted by the necessities of the second World War. The machine, by making possible this reduction in working hours without a reduction in the products of industry, can free the population from

[4]*Problems of a Changing Population*, p. 31; *Biennial Census of Manufacturers*, 1937, Part I, p. 17.

[5]J. S. Mill, *Principles of Political Economy* (Longmans, Green & Co., Ashley ed.), p. 751.

drudgery and at the same time increase the comforts of all classes, goals which Mill imagined but did not see.

Machinery and Industrial Instability · This brings us to the vexed problem of the effect of the machine on employment. Has the productivity of machine industry made unemployment a permanent and inescapable problem? If it has not done so already, is it in process of doing so now? Is technological unemployment one of the inevitable characteristics of the new technique? That the introduction of new machines often causes temporary unemployment is obvious. The important and as yet unanswered question is whether unemployment must be the permanent result of changing technique. It is merely raised here; it will reappear for discussion later. Another of the disquieting characteristics of our present order, closely related to the unemployment problem, is its instability. This is manifested both within single industries and in the economy as a whole. A new and unexpected invention or change in method may throw out the future calculations of businessmen; it may subject older industries to unexpected and powerful competition; it may even create new industries and destroy old ones. A world in which constant search for new methods and new machines goes on can never be a world of stable industry. In this unpredictable change imposed by inventions and discoveries some students find an explanation of our cycles of prosperity and depression. Others ascribe such movements not to the dynamic impact of new machines on existing methods of production, but to the very nature of machine industry, which in itself makes impossible the rapid adjustment of production to sales and which creates difficulties of balance between the production of consumers' and that of producers' goods. The entire problem of instability involves complex economic questions which must be reserved for later consideration.

Machinery and Unit Costs · This is an appropriate time for first illustration of a principle which will make frequent appearance throughout our study. Suppose we had a machine for the folding of paper cartons which could fold one thousand an hour but actually folded only ten. All the expenses attached to running the machine for an hour, including replacement costs and interest on the investment, must be divided by ten to find the cost of making each of the ten cartons. If, on the other hand, one thousand cartons were made each hour with no increase in the machine cost, we should now divide the same figure by one thousand, and we should of course find that the cost per unit had dropped, perhaps from 10 cents a carton to .1 cent. Here simply and crudely is presented the idea of decreasing unit costs. If we look at it in reverse, we have the condition of increasing returns. Instead of considering

a single machine, extend the idea to include the entire plant, and we shall see that as the scale of production increases, up to the capacity of the plant, the cost of each unit will probably decrease and we shall have increasing returns per unit of cost. The operation of this principle is not peculiar to machine industry, but the large use of machinery has made for sharper declines in costs as scale of production increases, and has thus made of its working a matter of prime importance in manufacturing. It will be given further attention at later points in this volume.

Lest the student conclude from the above paragraph that increasing the volume of product must always decrease the unit cost, it may be well to give warning here that this is not invariably the effect. Suppose that as we increased the scale of production of paper cartons the pulp from which they were made grew more and more expensive. Forests adjacent to the plant were exhausted, and it was necessary to bring wood from a great distance. Perhaps, also, woods suited to the purpose could not be obtained and inferior qualities demanded more expensive treatment. Here, for the sake of seeing the point, let us make a supposition violently counter to the probabilities by supposing that the increasing expensiveness of the raw material used more than countered the decrease per unit in the expense of using the machine. The result would be that as volume of product increased, the cost per unit would increase, and our industry would be one of increasing costs or decreasing returns. Both these principles are at work in our productive system. We shall encounter them again and again and shall later find them involving us in much more abstruse questions than they seem to present at this first meeting.

Economic Problems of the Machine in a Single Industry

Many of the results of present-day technology can be seen, in little, within the limits of a single industry. The glass-bottle industry provides an example. Glassmaking is an ancient art, and up to the beginning of the present century bottles were produced entirely by hand, glass-blowing being one of the most highly skilled manual arts used in large-scale production. The change to automatic-machine methods was sudden. About 1905 a glass-blower named Michael J. Owens developed an automatic machine for blowing bottles, which could produce in twenty-four hours more than thirty thousand bottles, against the six or eight hundred of a skilled hand blower. What were the results? In 1899, 28,370 wage-earners turned out 1.1 billion bottles; in 1935, 24,044 turned out 6 billion. A worker in 1899 produced about 40,000 containers in a year; in 1935, about 245,000. Population during these years increased by more than two thirds, yet every person in 1935 had more than three times as

many bottles of all kinds as in 1899. Meanwhile, to touch the economics rather than the technology of the matter, the number of bottle-making companies fell from 155 in 1904 to only 40 in 1935, of which 5 produced more than two thirds of the total product. A single concern controlled the patents under which two thirds of the bottles were made, and a second company those under which nearly all the rest were produced. The labor required changed from that of the skilled glass-blower to that of the variety of skilled and unskilled workers required to manage and man the machines.

A simple enumeration of these facts is enough to suggest the multitude of economic problems inherent in this development. In a third of a century an ancient, highly skilled art has been supplanted for most purposes by a purely mechanical operation. How was the transformation effected? Who brought it about, and by what means? Who got, and who is getting, the benefits of the change, aside from the bottle-using public, which today is enjoying not only more but cheaper bottles? How were the workers in the industry affected, both the glass-blowers whose skill was made worthless and the new classes of operatives who came in with the machine? How was the required mass of capital instruments created? By whom was it provided, and with what results as concerns both the production of new wealth and the distribution of what is produced? What have been the effects on those who direct the industry? Why the striking fall in the number of concerns producing bottles in the face of a fivefold increase of production? What is the significance, for production, price, wages, and profits, of the startling concentration of control over processes of production exercised by a few persons, as disclosed by the facts of patent ownership and use? How is the industry, as a matter of fact, working in relation to the welfare of the whole body of the people, to help to satisfy whose wants it exists? How, if at all, might it be modified to make it work better in respect to that end? Every one of these questions, together with a multitude of others, springs directly or indirectly out of a single technical change that has taken place during the present century. It is a relatively unimportant change by comparison with many others that will at once come to mind, yet it plainly entails far-reaching economic consequences.

Summary

It is unnecessary at this point to enlarge further on the wonders of continually new inventions, processes, and machines, or on the continually new economic adjustments that they require. The progress of technology is a fact of modern life that will go on as long as science advances. Constant technological change necessitates the constant adjustment of economic controls, that

men may attain the maximum advantage implicit in the development and may at the same time avoid its disadvantages and dangers. The possibilities of good appear almost unlimited, but the disadvantages are obvious and the dangers threatening. To attain the one and avoid the other is a task that involves economic, not simply technological, thinking. The advantages may be summed up as (1) the lightening of actual physical toil and (2) the ever-increasing productivity of labor. The latter brings in its train three possibilities: (*a*) increasing per capita output of consumers' goods, (*b*) shortening of necessary working time with corresponding growth of leisure, or (*c*) a combination of more goods and more leisure in whatever proportions may seem socially desirable. The disadvantages manifest themselves at present notably in irregularity of productive output and industrial income, unemployment, unsatisfactory distribution of product, production of the wrong things, monotony and other undesirable conditions of work, and disharmony among the groups engaged in the productive process. On examination it will be discovered that the disadvantages, for the most part at least, are not inherent in the machine process or in modern technology as a whole, but that they result from the slow adjustment of our economic arrangements to the requirements of the new technology. To attain the best results such adjustment needs to be a continuous process, parallel with technological change.

CHAPTER SEVEN

Production in the United States

THE three preceding chapters, if they have achieved their purpose, have given some idea of the character of our natural resources, our body of labor, and our machine equipment, all of which unite to create our flow of income. Part of what has been said would apply to the production of any society; part is peculiarly applicable to our own productive arrangements. In the present chapter we shall consider further requisites and general characteristics of modern production, and attempt a brief description of the American economy as a working system, with its various elements co-operating to provide the living of 140 million people of diverse nationalities, habits, education, and culture. The nature of the flow of products, within the limits imposed by our productive capacity, depends on the varied wants of these 140 millions, individually and in group organization. The end products will be food and clothing, houses and furniture, automobiles and radios, as well as sermons and concerts and movie entertainments. Whatever the consumers' goods are, their production is the ultimate task of American industry, the goal of economic activity described in Chapter Two. In addition, the productive equipment must turn out yearly a vast quantity of producers' goods: machines and trucks and factory buildings and shops, commodities that nobody wants for their own sake but that are essential for the future production of consumers' goods. In summary, the total income produced, made up of these two elements, is produced by the application of the labor of the American people to the natural resources at their command. As we have seen, they do not work barehanded. They are aided by the existing equipment of producers' goods. The abundance of our production depends not only on the quantity and quality of our labor supply, and the richness of the resources of nature, but also on the amount and quality of the machines with which we work. Further, it depends on the knowledge, the foresight, and the all-round competence with which the requisites of production are brought together and the labor is directed.

Production and Management

This last statement calls for expansion. The necessity for all-important decisions which is imposed by machine industry has already been mentioned.

The need for decisions in industry of course existed long before the era of machine technique. Even a Robinson Crusoe on his island must decide how much time he will devote to searching for edible shellfish to allay his hunger, how much to making a shelter to protect himself from sun or rain. All laborers save those whose work has become a complete and unvarying routine make and act upon judgments, thus to an extent sharing in the management of production. As industry has increased in complexity and changes in technique have become more rapid, the number, the variety, and the importance of the decisions to be made have increased until decision-making has become a specialized and indispensable function of production. Somewhere in every economic order there must be men or groups of men who determine, either collectively or by countless individual decisions, how much labor and capital will, in a normal future, be devoted to building houses, how much to building factories, how much to making roads, how much to the manufacture of machine tools, how much to making refrigerators and automobiles.

The importance of these decisions is in itself convincing testimony to the scarcity of the resources which are employed and to the need to apportion them among a variety of uses. Were they abundant there would be no need for choices. Were our society completely stagnant, such decisions once made might serve for all time, but in a shifting economic order the necessity for constantly changing decisions gives to the decision-makers large responsibility and much risk. These decisions might conceivably be made at the will of a dictator or through central planning boards; they might be made by private monopolists, together arranging the share of productive agents to be distributed to each one and the uses to which they were to be put. If they were made by any of these somewhat spectacular methods, the attention of consumers whose well-being was at stake would be riveted upon the action of the decision-making power. In our society normally they are not made by any such unified planning. While some are the action of various government units, the great majority are the innumerable un-co-ordinated decisions of private individuals and groups. Insofar as they are privately made, they are, as was said in Chapter One, guided by price conditions and opportunities for profit. While they may be less spectacular, they are no less important to our well-being than if they were made by a dictator. In the aggregate they determine the allocation of our resources among our various industries, the proportion of labor to machinery within each industry, the adventuring with new products or new methods.

The business leader, the entrepreneur, the enterpriser—it does not matter what we call the multitudes of decision-makers and risk-takers—is at the central position in our scheme of production. He is sometimes depicted as a

greedy, cruel, and dishonest monster, whose delight is to wrest the last penny of profit from downtrodden workers and ignorant and deluded consumers; sometimes as the daring pioneer who risks all to enrich his fellow men. Neither conception has any place in a sober attempt to understand the part of management and enterprise in production. A farmer decides to buy and pasture steers through the fall in order to sell them in the late winter. He is making a decision as to the use of his resources in the light of what he hopes will be the price of beef four months later. A small-town retail merchant increases his stock of goods because of his expectation that the Christmas trade will be unusually large. The management of a railroad, believing that traffic is increasing and will continue to increase, orders additional rolling stock. The makers of razor blades, fearing that the wares of a rival are becoming too well known, decide to spend $100,000 in advertising. A popular cigarette company increases the length of its product, confident that this will increase its sales.

In each individual plant the questions to be answered are endless: Shall the output be expanded or contracted? Shall new machinery be installed to replace hand labor or because the old is obsolescent? Shall men be laid off for a fortnight or put on a four-day week, or be asked to work overtime? Shall the firm borrow money for expansion or obtain it by a sale of stock? Shall the stockholders be paid a larger dividend or no dividend at all? Shall a new method be tried, or a new product be added to those already produced? Shall the concern acquire the sources of its own raw materials? Shall it merge with its rivals or continue an independent existence?

The sum of all the answers to countless questions such as these plays a large part in determining the volume and the character of our national income. Each decision has demanded the balancing of innumerable considerations; each affects the employment of agents of production; each involves the assumption of responsibility and risk. As organizer, planner, co-ordinator, and enterpriser, we shall encounter the businessman frequently in the pages which follow, and shall learn something of the conditions which hedge his freedom of choice and the far-reaching influence of his judgments on our entire economy. Here we are content to recognize him as a necessary element in production. His importance will be obvious once we realize that errors on his part will not only deprive him of profits but also waste the resources of society and reduce the flow of income. When the judgments which he makes and the risks which he assumes—and must assume if industry is to be carried on—result in loss, that loss is seldom if ever limited to him alone. We are all the poorer because of his mistakes. Though the incompetent tend to be eliminated by their own incompetency, this does not restore the resources they waste. The national income may be depleted by errors or enriched by wise decision.

The Character of Modern Production

We are now able to summarize the influences thus far considered which determine the productiveness of our society, or of any society, as

1. The extent and richness of the natural resources available
2. The amount and quality of labor
3. The equipment of capital goods at disposal
4. The skill, the judgment, and the courage of management

Under any economic system these factors are essential to production, and their amount and their character largely determine the effectiveness of production. It is, however, entirely possible that the system itself may be such as to foster or to hinder their full utilization, the proper co-ordination of the individual producing units, and such distribution of the product as will bring the greatest general welfare. Furthermore, certain characteristics of the modern employment of the agents of production, implied in the historical survey of Chapter Three but not as yet discussed, contribute to the rich output of modern industry. To one of these, commonly called division of labor, reference was made in the section on machine technique. It is so universally familiar that we accept it as we do the progress of the seasons or the passing of the hours of the day. The term connotes several rather different phenomena of production. In earlier society it implied specialization among occupations. From the time when the hunter, the warrior, and the medicine man were the distinguishable vocations, down to our own day, the number of separate and distinct occupations has steadily increased. Men earn their living through more and more highly specialized activities. Actors and bankers, charwomen and junk dealers, porters and bootblacks, represent but a few of the hundreds of occupations enumerated in our census lists.

By ceasing to be a Jack-of-all-trades, and instead devoting himself to a single pursuit, man increases the total of production for three reasons as sound today as they were when formulated by Adam Smith in the eighteenth century: (1) he may choose the calling for which he has the greatest aptitude; (2) he may gain greater skill because of his more intensive application to it; (3) he may avoid the loss of time which accompanies shifts from one occupation to another. If he is to enjoy the utmost advantage from his augmented production, he must be able to exchange the larger quantity of goods which he is now making for some other necessary or desirable product. It follows that increased division of labor or increased specialization of occupation, whichever we call it, must be accompanied by an enlarged market. Adam Smith's cogent statement holds true here also: "As it is the power of exchanging that

gives occasion to the division of labour, so the extent of this division must always be limited . . . by the extent of the market." With the growth of markets from local to national and to world areas, the division of labor and specialization likewise have increased, with corresponding increase in the volume of production. A higher scale of living has thus been made possible for all the world.

All this applies with even greater force to the advance of division of labor in its second meaning, division of processes within occupations. Since the eighteenth century the reorganization of occupations into a succession of cooperating processes has been rapid. This has contributed to the invention of machines and has been speeded by the use of machines. The changes in English methods of production, briefly traced in Chapter Three, illustrate the progress of division of labor in both uses of the term. With machine technique specialization becomes specialization not only of workers but also of machines, and the volume of product made possible calls for still wider markets. These were provided by new methods of transportation, and world-wide trade and world markets became a characteristic of nineteenth-century production.

This carries us to a third use of the term "division of labor." It is sometimes extended to cover what is better known as geographical specialization or localization. Not only do men and machines specialize, but entire areas may devote their productive facilities to certain products and exchange them with the rest of the world. This kind of specialization likewise adds to the total volume of product available to mankind. The manifold reasons for the concentration of industries in specific sections can be dismissed here with brief mention. The location of natural resources determines the location of the extractive industries such as mining and lumbering; character of climate and soil may determine the sort of agriculture practiced in a given section. The location of raw material or of fuel, easy access to markets, the presence of skilled workers or of credit facilities, all affect the location of manufactures. When they use all possible advantages industries are more productive than when they operate under handicaps imposed by the absence of such advantages. This obvious fact accounts for much geographic specialization and the increase in production which it has brought about. Certain other causes of localization do not of necessity increase the productiveness of industry to society. Early location in a region may have been the result of pure chance, and inertia may prevent an industry from shifting to districts which would actually be more advantageous. Frequently industries are induced to settle in one place rather than another by the promise of the remission of taxes or by the grant of some other special favor. Such privileges may increase the profits of the concern itself, but in themselves they do not increase its productiveness. The same com-

ment could be made on specialization brought about by bounties or tariffs unaccompanied by other advantages. However, we may safely assert that concentration of industries in specific areas tends to increase production, even though there may be important exceptions to this generalization.

Division of labor and specialization, such as are here described, could not have developed without co-operation among producing units. Economic society is not chaos. That fact was recognized in the title of the very first chapter of this work. It has been implicit in much that has followed. Though our production is "unplanned" in the usual meaning of the word, it rests on a co-operation, albeit often unconscious, which justifies the employment of the terms "economic system" or "economic order." Men must be able and willing to co-operate if goods are to be produced and consumed. In this co-operation the part played by the exchanges of the market will become clear as we proceed. The student already will have realized how closely related are the various characteristics of modern production. Specialization and division of labor are but two aspects of the same development; they call for increased exchanges, larger markets, and greater co-ordination among all the parts of the economic system. Machine industry, division of labor, and the world markets made possible by improved means of transportation and communication, in turn make possible the production and sale of goods on a large scale. Large-scale production demands large capital. The accumulation of capital is facilitated by the development of the corporation as the business unit. Far-flung markets, large-scale production, the vast aggregations of capital employed, call for an extensive credit machinery and make of finance a bewildering business in itself.

The American Economy at Work

All these closely knit characteristics are exemplified in our own economy. The American productive organization is the largest and most high-powered in the world today. In the actual quantity of goods turned out, both in total and per capita, American industry stands in the first place. It has been estimated that, with only 6 per cent of the world's land area and 7 per cent of its people, we have 32 per cent of its railroad mileage, 58 per cent of its telephones, and 76 per cent of its automobiles, and that we produce no less than 47 per cent of its steel, 33 per cent of its coal, 60 per cent of its petroleum, and 56 per cent of its cotton, to select only a few striking figures. Our proportions of world wealth and production, it will be observed, run from four to eleven times our proportion of world population. The extraordinary productive power and performance of American industry are not to be gainsaid.

What of the stability of its performance? A review of less than a score of years shows equally extraordinary fluctuations in the output of our industry. Our steel mills, operating at less than 20 per cent of their capacity, turned out 1,277,000 short tons of ingots and castings in 1932; in 1944 their product was 7,470,000 tons. One fourth of the time between 1925 and 1944 this industry utilized less than 50 per cent of its productive power. The volume of aluminum produced in 1930 was over 229 million pounds; four years later it had dropped to 74 million; in 1943 it was over 1.8 billion pounds. Of petroleum the production in 1932 was 65 million barrels; in 1944, nearly 140 million. According to preliminary estimates, meat production was 77 per cent higher in 1944 than the average production for 1935–1939.[1] The contrast between what we are able to produce and what we do at times produce need not be further illustrated. If it be thought that the increases reflect a transfer of the factors of production, and that, as the output of steel or aluminum increased, the output of some other industry declined, a glance at a measure of total production will correct that belief. Using the average physical volume of production of the years 1935–1939 as 100, the Federal Reserve Board compared the production of other years with that average. For 1929 it was 110; for 1932, 58; for 1944, 235. It is true that, during the war, factors of production were transferred from civilian to military purposes, but the significant feature of the years 1941 through 1945 was the total volume of goods which the American economy poured forth, in contrast with the amount being produced ten years earlier. We know now better than ever before the extent of our productive capacity; we do not yet know whether we can achieve stable production at this level, or indeed at any level.

The Gainfully Employed

As an economic unit the United States embraces three million square miles of contiguous territory. Of the 140 million Americans who occupy these three million square miles, some 53 million in 1943 were engaged in producing for a market; between eight and nine million were in the armed services. What did these 53 million Americans gainfully employed actually do? Table VIII gives us some idea of the numbers in each major branch of industry. Within each of these divisions are many occupations, and within most occupations is a considerable division of processes. Tables VIII and IX also indicate some of the changes in occupation and production attributable to the war. The workers in the extractive industries, the first three occupations listed, who provide us

[1]National Industrial Conference Board, *The Economic Almanac*, 1945–1946, pp. 233, 234.

Table VIII · Employment of the Labor Force[2]

	1939		1943	
	IN THOUSANDS	PERCENTAGE	IN THOUSANDS	PERCENTAGE
Total	44,993		53,097[3]	
Agriculture	10,739	23.8	10,264	19.3
Forestry and fishing	198	.4	188	.3
Mining	707	1.5	702	1.3
Manufacturing	10,517	23.4	16,205	30.3
Construction	1,610	3.5	1,764	3.3
Transportation	1,871	4.1	2,476	4.6
Public utilities	934	2.1	1,021	1.9
Trade, distribution, finance	7,511	16.6	7,479	14.1
Service industries	9,978	22.1	11,594	21.8
Miscellaneous	928	2.0	1,406	2.6

with food and the raw materials of industry and power, constituted in 1939 slightly more than one fourth of the total; in 1943, a little more than one fifth. The number supplying our food in the second year was actually smaller than in the first, though the money valuation of the output had leaped from 5.2 billion dollars to 14 billion. This was by no means all an increase in physical volume. Prices as well as volume of product had increased in the second year. The 9.3 per cent of the total income produced by agriculture in 1943 was produced with the aid of a capital equipment of about $3900 per worker. As we should expect, the numbers in manufacturing show most clearly the impact of the war. The workers increased by more than 50 per cent; their proportion of all gainful workers rose from 23 to 30 per cent; and the value of their product, 17 billion dollars in the prewar year, was over 48 billion in the war year, nearly three and one-half times that of agriculture. Similar comparisons between the earlier and the later year show for the war year a smaller proportion of workers in construction, public-utility industries, trade, and the service industries. Turning to Table IX, which divides occupations in slightly different fashion, we find that in 1943 the percentage contributed to the national income by agriculture, manufacturing, construction, and government activity had increased; all other divisions had lost in relative importance.

The Extractive Industries

While the extent and richness of American natural resources are the foundation of the productivity of our extractive industries, they by no means completely account for our increasing abundance of production. In 1790 nine

[2]National Industrial Conference Board, *The Economic Almanac*, 1945–1946, p. 35. The sum of the percentages here and elsewhere is not exactly 100 because of the rounding of the figures.

[3]This omits the military forces, reckoned at 8,929,000 in 1943.

Table IX · Contribution to the National Income by Industrial Groups, 1939, 1943[4]

	1939		1943	
	IN BILLIONS	PERCENTAGE	IN BILLIONS	PERCENTAGE
National income	70.8		149.4	
Agriculture	5.2	7.3	14.0	9.3
Mining	1.3	1.8	2.5	1.6
Manufacturing	17.0	24.0	48.1	32.2
Construction	1.9	2.6	4.3	2.9
Transportation	5.0	7.0	9.5	6.3
Power and gas	1.5	2.1	1.6	1.0
Communication	.9	1.2	1.2	.8
Trade	11.0	15.5	17.4	11.6
Finance	6.8	9.6	9.2	6.1
Government	10.0	14.1	25.1	16.7
Service	7.0	9.8	10.3	6.8
Miscellaneous	3.2	4.5	4.6	3.0

Americans out of every ten were farmers; in 1943 one farmer provided food and vegetable raw materials for five workers besides himself. The opening of the Mississippi Valley with its rich level lands, far more fertile than the farm land in use in 1790, contributed to this change but is by no means wholly responsible for it. Here, as in other industries, an increase in specialization, and the greater use of machinery and of power, have directly enhanced agricultural production per man. Indirectly they have increased it through the development of transportation facilities. The railroads, together with the motor vehicles and paved highways of the present century, by enlarging the market have added to the possibilities of specialization, and have put the particular resources of each great agricultural region at the disposal of the entire country. Also, the vastly enlarged scientific knowledge applied to farming, by making over farm practice, has increased the output per man and per acre.

In considering the geographical location of agriculture, two questions call for answer: Where is the farming population concentrated? and To what degree is there product specialization within those concentrations? Of course the workers engaged in agriculture must be located on the land, but it by no means follows that the greatest concentration of agrarian population will be found in the areas of richest soil. Our agricultural population is largest in the South, where much of the land is less fertile than that of the Middle West. The explanation of this is to be sought in our historical development, combined with all those factors which prevent a people once settled from easy mobility. A second specialized group of farmers is to be found in the Northeast, also an area of inferior soil. Here the reason is to be found primarily in the large in-

[4] *The Economic Almanac*, 1945–1946, p. 68.

dustrial population, which provides a body of consumers for the poultry and dairy products of New England farmers.

Crop specialization within the industry is largely the result of differences in climate and soil. Wheat stretches from the Dakotas to Oklahoma; corn flourishes from Ohio westward to the wheat belt; cotton is to be found chiefly in the new Southern states; the citrus fruits of Florida, Texas, and California provide the breakfast tables of the entire nation. The plains of the West pasture sheep and cattle.

The location of other extractive industries likewise is determined by the location of resources. In early days forges were widely scattered, using the small ore of various insignificant deposits along the Eastern seaboard from Massachusetts to Virginia. With the development of the country beyond the Alleghenies the great Lake Superior deposits of steel-making ores became available, and our mining of iron ore was concentrated in this rich area. Coal-miners are found in greatest numbers in Pennsylvania, West Virginia, and Tennessee, and in southern Indiana and Illinois, but most states of the Union have at least a small mining population. The lumberman is more mobile. He speedily exhausts the forest areas, and consequently his industry is always in pursuit of new sources of supply. Today the most important lumbering operations are in the South and the far Northwest.

Forestry and mining tell the same story of increasing productiveness as farming, and for essentially the same reasons. Between them they employ only one out of forty of our workers, but this small proportion of men turns out the wood and iron and clay and stone that meet our annual construction needs, and provides the fabulous quantities of iron ore, copper, and other metals which we annually put into machinery. It also supplies the major part of the power to run the machinery. Notwithstanding the well-justified popular interest in water power, coal and oil still remain the great power resources. The productiveness of American lumbering and mining rests at bottom on the richness of our forests and mineral endowment, but, just as in farming, American labor employed in lumbering and mining has at its disposal not only immense natural resources on which to work but a prodigious equipment of power-driven machinery with which to work them. Since the Civil War a vast mechanical equipment has gone into developing our mining industries of every kind. We are exploiting wholesale our coal and oil and iron and copper. Such wholesale exploitation has required not only machinery but also large business units. Mining today is carried on almost wholly by corporations demanding direction by men of organizing and executive ability. No less important, today's mining industry has at command the findings and the services of the chemist, the geologist, and the whole body of natural

scientists who have transformed mining from the gamble it was during the nineteenth century to the sober scientific calculation of today. The American mining industry must be thought of first in terms of mineral deposits, but secondly, in terms of knowledge, organization, and equipment requisite to the economical working of these deposits.

Manufactures and Hand Trades

Our extractive industries have provided us with cheap food, cheap materials, and cheap power. On this foundation, during the three quarters of a century since the Civil War, we have built up a manufacturing industry second to none in the world. The figures of Table VIII comprehend not only factory industry but hand trades as well. In the factories alone we had in 1939 somewhat fewer workers than we had on the farms, but by 1943 factory workers exceeded farmers by more than 50 per cent. The strength of American factory industry lies in the development of power-driven machinery and its wholesale application to great amounts of cheap raw material. Our production is mass production and requires mass consumption. When the automobile first became practical, Europeans, by the use of large amounts of skilled hand labor, built small numbers of cars of the finest grade, which were sold at high prices to the few rich people able to buy them. With cheap steel and cheap power American manufacturers, on the other hand, began producing automobiles on the belt, with precision machines of all kinds doing the work and with workers tending the machines. As a result, twenty-eight million cars ran on American roads before the war, and other millions of American-made cars were to be found in all countries of the world. This mechanical mass-production character is by no means peculiar to American industry. It has been copied elsewhere to the full extent that economic circumstances have permitted, but nowhere else in the world have conditions made possible such a development as ours.

In American manufactures, accordingly, the productive units are characteristically large ones, each consisting of a mass of buildings and machinery, often employing hundreds and even thousands of workers. Large capital therefore is required for any major undertaking. A modern steel plant requires an investment of tens of millions of dollars. In such an undertaking the worker, broadly speaking, is an appendage of the machine, instead of the tools' being an appendage of the worker as is the relation in the hand trades. In our factories, as in our mines and on our railroads, we think of great collective units rather than of single employers. In these units men are brought into cooperation by the technical necessities of the various industries. Within the

factory every part of the work is dependent on the smooth working of all the rest, and division of process, specialization, and co-operation are carried to their utmost development. More than this, the successive steps in the process of transforming the raw materials into the finished product make necessary a high degree of co-operation between industries at different points in the process. Failure in planning at one point may hold up work all along a line of production.

Plainly enough, the efficient operation of factory production requires a proper layout and the right machinery. With the ceaseless march of invention, yesterday's machine is no longer adequate for today's work. Accordingly, there is a relentless scrapping of obsolete machinery as a condition requisite to economical operation. The equipment of our factories is in process of perpetual change, which not infrequently must take place long before that equipment is worn out. Judgment on questions of this kind is but one of the multifarious tasks confronting the management of any great manufacturing enterprise. Every kind of technical problem, research problem, operation problem, business problem, forever demands prompt answer. On the right answers hang the issues of success or failure of undertakings employing sometimes thousands of workers. Management, equipment, and abundant cheap materials are the basis of our mammoth manufacturing industries.

Increase in productiveness, such as was illustrated in the preceding chapter, is not limited to our great mass-production plants, but can be found in small industry as well when division of process and adaptation of process to machine have been carried forward. So humble an industry as the making of cotton work garments serves as an example. Within the industry there is a certain amount of plant specialization, some establishments making dress shirts, some overalls, some work shirts. The last quarter of the nineteenth century saw the substitution of machine methods for handwork and a great increase in the subdivision of processes. In recent years there has been no important change in machines employed, but the refinement in division of process still goes on, each new subdivision increasing the speed of production. The making of a shirt in 1870 called for five distinct operations; in 1936, for from twenty-one to thirty-nine. The change from hand to machine brought about an increase in general productivity of perhaps 500 per cent, though in some details it was much more than that: productivity in buttonhole-making increased by 1000 per cent; in cuff-making, by 6600 per cent.

Cigar-making, also a relatively small industry, likewise illustrates many of the trends of modern production. Slow to turn to machine processes, it retained some hand labor until 1917. Between 1921 and 1936 it went through a period of change in which the number of firms was reduced by 60 per cent

and the number of workers by 50 per cent, while the volume of output was increased by 30 per cent. Accompanying these changes was a change in the character of the workers, the skilled craftsmen giving way to unskilled machine-tenders. During these years, also, many women entered an industry which previously had been exclusively masculine.

Manufacturing is not tied so closely to its raw materials as are the extractive industries, and many forces have entered into the location of its various branches. For the most part the manufacturing population lives east of the Mississippi River and chiefly in thirty-three industrial areas, each clustering about a central city. A few of these are the result of historical development or of pure chance, but many of them have arisen because of genuine advantages of one sort or another. Textiles in the early days concentrated in New England partly because of climate and water power and partly because of the existence of a market. Once a special form of manufacturing is firmly located, the advantages of the region are cumulative. The region becomes a center of skilled labor. Banking facilities and means of shipment of raw material and of finished products are adapted to the needs of the dominant industry. Only the development of obvious handicaps in the original location or of marked advantages in a new one will cause any considerable shift. With textiles such a shift has taken place in recent years, New England losing and the South gaining plants. The attraction offered by the new area has not been proximity to raw material, but rather the prospect of cheap labor and of escape from the heavy taxes and the restrictive legislation of some of the northeastern states.

Iron and steel mills have been concentrated close to the coal fields of Pennsylvania and the coal and iron of Alabama, or in the Great Lake cities where fuel and materials can be brought together cheaply. The industries which deal with the fabrication of these materials move away from fuel and iron ore toward the body of users or consumers. In the industrial area south of the Great Lakes are to be found many of the industries dependent on steel: automobiles, machine tools, and other machinery.

The statement that available means of transportation frequently decide the location of industries might well have been made more specific. It is often the cost of transportation which is the determining factor in plant location, or, better, the balancing of various costs of transportation. Pittsburgh today fears the loss of leadership in the production of steel because of disadvantageous freight rates. Freight rates enter into production costs at each end of the productive process: freight charges on raw materials and those on the finished goods. The entrepreneurs who are locating a new industry may be so rarely fortunate as to have market and source of raw material close together. Far more frequently either the raw materials, or perhaps the fuel, must be

shipped a long way or the products must be sent to a distant market. If the materials are bulky and freight charges on them high, we should expect to find plants located close to them. The flour mills of the country tend to be near the wheat fields, rather than in close proximity to the area of densest population. If, however, raw materials can be transported cheaply, while freight rates on finished products are high, the plants will go to their customers. All this suggests the extraordinary importance that railroad rates may have in determining the location of industries and the range of their markets. Circumstances which determine the original location of plants may change later without occasioning a shift of industry. Paper mills, originally located close to the source of wood pulp, have not always abandoned their original sites as the forests have receded. Water supplies, the presence of skilled labor, and proximity to markets provide advantages sufficient to offset the increasing distance from raw material. In the same way the manufacture of furniture, originally developed in Michigan because of the extent of forest land, has remained a Michigan industry. The presence of skilled workers and of subsidiary industries, along with marketing habits and a heavy capital investment, holds the industry to its early location, though the forests are gone. The same reason accounted for the concentration of carriage-making in Michigan and northern Ohio. When carriages gave way to automobiles, the makers of carriages not infrequently turned to the production of the new vehicle. That Minneapolis should become a flour-milling center and Chicago and St. Louis great meat-packing cities seems inevitable, in view of the character of the country by which they are surrounded. By contrast, there is doubtless much localization which seems to have begun by the purest chance. There may have been no special advantages at work to make Akron a great rubber city, Troy a center for the manufacture of collars, and Gloversville for gloves, but once these industries had been established, there were advantages in further expansion in these localities.

Transportation and Trade

Division of labor, specialization, and large-scale production cannot bestow their boon of increased material well-being unless a large market is available. In this country our agencies of transportation and communication and our trade machinery make such a market possible. They tie our three million square miles together into a convenient economic unity. Without such unity our present productiveness would be impossible. Goods are moved about over our continental area with marvelous speed and certainty. We expect, as a matter of course, to be able to get practically anything we want and can pay

for, at any time or at any place, and on a few hours', or at most a few days', notice. Such a miracle is possible only because of our nationwide scheme of economic co-operation. Our railroads, with their 1,400,000 employees and 240,000 miles of line, are still the backbone of organized transport, though middle-aged men have seen the creation and development of a supplementary system of motor transportation that has added greatly to the convenience and flexibility of our arrangements for the movement of goods and persons. To this has now been added transportation by airplane, which eliminates many of the inconveniences which have accompanied the vast extent of our territory. The post, the telephone and telegraph, and the radio, among them employing about half a million workers, by the prompt transmission of intelligence, go far to make of the United States a single price area, allowance being made, of course, for transportation costs. In consequence of the rapid and continuous interchange of information and transport of products, goods are sent where they will command the best market. The result is an approximation to price equality that has a tendency to make of the whole United States a single market.[5] Its people accordingly have been enabled to enjoy, in unique degree, the advantages of the extraordinary diversity of rich natural resources at their disposal. Transportation, communication, and trade are essentials of such enjoyment. In respect to transportation and communication, it is unnecessary to repeat what was pointed out in the discussion of manufactures concerning the dependence of efficiency on adequate equipment and skilled management.

Trade, which in the broad census classification includes banking, insurance, and real-estate business, requires one American worker out of every seven. Unlike the activities previously considered, it is not mechanized, nor has its character been radically changed by the machine. It has, however, become much more important than formerly. Today practically all the goods produced by our 53 million workers are produced for sale. A century and a half ago most Americans consumed a considerable part of their own production. Merchandising has become progressively more important in the business scheme as machinery and power have progressively solved the technical problem of multiplying goods. The dollars of consumers, moving through the channels of trade to the pockets of the producers, and thence out once more as the expenditures of producers, control our scheme. Our existing system of trade is undoubtedly wasteful, as its critics maintain, but the function performed by the one seventh of our workers whom it occupies is an essential part of our present producing scheme. Wholesale distributing centers are close to the centers of manufacturing; retail trade must be close to the consumer. It

[5]This extremely broad statement must be reasonably interpreted in the light of common-sense knowledge of facts. The market for many products is strictly local.

by no means follows that the greatest amount of trade is to be found where there is the greatest population: retail merchants follow, not population, but population endowed with purchasing power. The concentration of retail trade, therefore, approximates closely to the areas of greatest income. The southern New England, the middle Atlantic, and the north-central states show the greatest numbers occupied in trade; the country between the Mississippi River and California, the smallest.

The Service Industries

Three fourths of our workers we have identified with the production of material goods; one fourth is classified by the census as engaged in public, professional, domestic, and personal service and clerical occupations. Of the four million clerical workers the largest part are attached to mining, manufacturing, transportation, and trade. The rest of them work for persons engaged in the separate professional occupations. Of the three and a quarter million persons in professional occupations, we may instance a million teachers; in the neighborhood of 150,000 each of clergymen, lawyers, physicans, and musicians; 226,000 technical engineers; and almost 300,000 trained nurses. Some of these persons work for themselves, like the ordinary practicing physician. Others are employees of private corporations or of the state, like most teachers. For our purpose at this point it is necessary only to note that they all produce services, just as the farmers produce wheat, or the General Motors Company produces automobiles, and that those services are sold in the market and paid for essentially as are the wheat and the automobiles. The services produced by the professional groups are a part of the income of the American people, just as truly as the wheat and the automobiles. The producers of the services, like the producers of the wheat or the automobiles, get their living in return for what they produce.

Exactly the same thing is true of the work of those engaged in domestic and personal service, whether it be in homes or hotels, in banks, shops, or laundries. The end product of the American economy consists of services as well as material goods. In fact, as was emphasized in Chapter Two, the end products *are* services and nothing else. All the activities by which they are created ought to be thought of as parts of one integral whole.

The Limitations on Production

In this brief survey of the American economy at work that economy has been treated as an economic unit, and one of prodigious capacity as well as

one subject to sharp fluctuations of output. The unity which has been emphasized does not prevent the existence of striking variations among its parts. Without attempting here to set forth the reasons for the existing diversities, their existence can be established by a study of Table X. The differences in productive performance which give rise to the differences in income payments recorded in the table bespeak underlying differences in natural resources, in the amount or the character of the labor supply, in the availability of capital and skilled management. They raise questions as to the amount of large-scale production and of access to markets in those sections of less abundant income, as well as important questions of public policy. Many of these questions the student may himself answer for the region with which he is most familiar.

Table X · Per Capita Income Payments to Civilian Population of the United States[6]

	1940	1944		1940	1944
United States	$573	$1082			
New England	724	1248	Middle East	$751	$1292
Connecticut	826	1477	Delaware	895	1381
Maine	508	1022	District of Columbia	1058	1245
Vermont	520	939	New York	862	1482
Southeast	319	663	West Virginia	398	735
Florida	467	883			
Mississippi	203	459	Southwest	397	821
			Arizona	471	826
Central	605	1154	Oklahoma	353	786
Illinois	726	1277	Texas	410	844
Iowa	485	951			
Michigan	649	1272	Northwest	453	964
			Montana	574	1063
Far West	747	1467	North Dakota	370	914
California	803	1496	Wyoming	603	983
Nevada	835	1293			
Oregon	578	1265			

As our study proceeds, it will become clear that the practical economic problems of public policy confronting us have to do chiefly with our natural

[6] *Survey of Current Business*, August, 1945, p. 13. The average for each section is given here, with the highest and the lowest state in the section. In 1929, with the per capita income payments in the United States $680, there were ten states with per capita payments below $400. In 1933 the per capita for the country had dropped to $368, and there were twenty-eight states with payments below $300. For the Southeastern states the average was $195. Mississippi, with $123 per person, was at the bottom of the list; the District of Columbia, with $806, at the top; New York, with $644, was second. In 1940 and 1944 Mississippi was still the poorest state in the United States; the people of New York State were the most prosperous. The highest per capita income in the Southeast, that of Florida, is lower than that of any New England state, the central states, or the Far West. In 1944 the Southeastern, the Southwestern, and the Northwestern states had per capita incomes below the average for the nation.

resources and with the operation of our scheme of economic controls. Our productive equipment, abundant as it is, is being continuously improved and increased. The scientist, the inventor, and the engineer are constantly devising better machines for the transmission of power. Fresh savings are constantly providing the new capital necessary to call these machines into existence. Our labor force is ample, efficient, intelligent, and continually better trained. Our standard of management constantly rises. The prompt application of new scientific findings to industry means a continuous rise in the everyday practices required to carry on any business successfully. The training of all kinds of business and professional men is far better than it was a half-century ago. Men have to be better farmers, better manufacturers, better railroad operators, even better merchants. The standards of performance have risen. They are bound to continue to rise. Despite all this, we have seen that in the past we have not achieved full production for long-continued periods and that not all areas have shared in general prosperity. What of the future?

The limits to future production are to be found not in these fields but in (1) limitations of natural resources and (2) the possible failure of institutional arrangements, whether governmental or private, to bring about the full cooperation of productive agents and the full utilization of productive resources. No abundance of natural resources will serve to maintain an increasingly abundant production if the economic system does not function smoothly. Strikes, unemployment and idleness of plant, irregularity of operation, monopoly with consequent limitation of output—these and other causes of restricted production are to be explained chiefly in terms of the unsatisfactory working of existing arrangements for the control of our industrial machine. To gain an understanding of these arrangements, we need to study the organization and activities of the separate, independent business units through which decisions are expressed. Secondly, we must penetrate the mysteries of the price system that binds these units together into a larger unity and after a fashion controls their activity. The chapters which follow deal with these subjects.

PART TWO

THE BUSINESS ORGANIZATION OF PRODUCTION

CHAPTER EIGHT

The Small Business Unit

THE National Resources Committee estimated that in 1937 there were in the United States between ten and twelve million producing units (as distinguished from state, church, educational, and charitable institutions).[1] From the standpoint of organization, the conspicuous fact about these units at the present time is the co-existence of a great number (some millions) of small units and a small number (some thousands) of large ones, including in the latter number a few hundred enormous ones. In legal form these organizations are individual proprietorships, partnerships, corporations, or co-operatives, a distinctive form of corporation. For the most part the small businesses are individual or partnership enterprises, though a certain proportion of them are legally put into corporate form for reasons of business convenience. The large units are almost invariably corporations. Some co-operatives are small units; others, large units. The difference in legal form has important economic consequences; but the difference in size, quite apart from the form which the organization takes, is also of great economic significance.

An important addition must here be made to our understanding of the term "small business." The adjective suggests, and is usually intended to suggest, a business with few employees, an insignificant capital investment, and a trifling output. It is, however, sometimes more important, economically, to distinguish the large business from the small not by absolute measurements such as these but by the relation of the output of the unit to the total product of the industry. A manufacturer of handmade jewelry with seven employees might be producing a large proportion of the output of the industry, a plant employing a thousand men might be a relatively small automobile plant. This chapter is concerned primarily with businesses which are small in the first and commonly accepted meaning of the term and with the legal forms which such businesses assume. The significance of the second meaning will receive consideration later.

In manufacturing, the economical production unit is no longer the little shop with three or four workers, but the factory with four hundred or four thousand, and with a mechanical equipment costing perhaps millions of dollars.

[1] *The Structure of the American Economy*, p. 99.

Hence we have had to devise a type of business organization that would make such a production unit possible. In transportation and other public utilities, in mining, and in manufacturing, the large corporation has met this need and has become the dominant form. The increase of corporations is partly due to the fact that modern production methods require large capital under unified management. Great sections of our economy, turning out probably as much as half of our entire product, are organized in the form of large corporations.

On the other hand, the demands of machinery and power brought about no such organization in certain divisions of our economic life. Those divisions are, indeed, mechanized so far as machinery is applicable. The modern American farm is a small self-contained power plant and machine shop, though it is beginning to get its power, except for use in the fields, from a central electric plant. The service industries all have their necessary machine equipment, but economical operation does not generally require such large and expensive units, and consequently such masses of capital, as are demanded in transportation, mining, and many lines of manufacture. In industries like agriculture, the service industries, and retail trade, where technical conditions do not necessitate large producing units, and where there is no necessity for the assembling of capital into large masses under unified control, the small enterprise, by contrast with the great corporation, still flourishes.

The small units are undertakings like a small retail grocery or hardware store or news-stand, a shoe-repair shop, a beauty parlor, a lawyer's or a doctor's business, a garage, a little factory. For the most part they are based on the capital and the activities of a single individual, or at most of two or three, assisted, it may be, by the labor of a handful of employees. They operate locally, and the relations of the owners and proprietors to their employees, and in many cases to the people they serve, are direct and personal. If three men who own a little establishment with a dozen employees incorporate their business because they can thereby lower their taxes or lessen their personal responsibility, they probably continue to run it much as they did when they were partners.

By contrast, the great corporations, like the General Electric Company, the United States Steel Corporation, the New York Central Railroad, or dozens of others that could be mentioned, combine, in the operation of one great business unit, the capital of tens or hundreds of thousands of shareholders and the labor of workers only less numerous. The field of operations of a single corporation like the Standard Oil Company of New Jersey may cover the whole country and may affect, directly or indirectly, every person in it. The personal relations, personal powers, and personal responsibilities attaching to the ownership of an ice-cream parlor or a market garden do not belong in any way to ownership of the stock of the Westinghouse Electric Company.

The individual proprietorship and the great corporation are different in kind; yet they exist side by side in our present organization, largely subject to the same law, and parts of the same general price-controlled mechanism.

The Individual Proprietorship and the Partnership

Before examining in some detail the extent of the small enterprise in the various industries, we should note the distinguishing characteristics of each legal form. The proprietorship is the property of a single individual. He owns it, runs it, takes its risks, and makes its profits or bears its losses. It is his business. It is commonly based on his own capital. In cases where he uses capital belonging to others he gets it as a loan on which he pays interest at an agreed rate, irrespective of the gains or losses of the business. He is his own man and has all the advantages and disadvantages of that situation. The great body of proprietorships are conducted with trifling capital, often only a few hundred or a few thousand dollars.

The partnership arises out of the advantage of combining the capital or the abilities of two or more individuals. Two men may have between them capital enough to set up a small hardware store, though neither alone has adequate funds. Or there may be three men, each perhaps with a little capital, who see an advantage in joining forces to start a small factory. One is a good man at running the mill; another has some skill at office work; the third is a good salesman. By joining their abilities they may get an effective working combination, though no one of them would be adequate to all the requirements of the business. It is a far less common form of organization than the individual proprietorship, which numbers more than nine millions. The number of partnership returns filed for income-tax purposes varied from 321,000 in 1924 to only two thirds of that number at the bottom of the depression nine years later.

The essential feature of the partnership is the full power and responsibility of each of the partners. Each has power to act for the partnership and consequently to bind his partners. Such power is evidently necessary to the public in dealing with a partnership. Without it any contract would require the assent of every partner. The other side of full power is full responsibility. Each partner is responsible not only for the contracts of the partnership but also for its debts to the extent of his entire personal fortune. A man with $30,000 has $10,000 engaged in a partnership, the remainder of his funds being invested elsewhere. As a result, perhaps, of unfortunate contracts or unwise decisions made by his partners, the firm fails, with liabilities $15,000 greater than the assets. If the other partners have no resources except those in the

business, then not only has the partner first mentioned lost the $10,000 that he originally invested, but he may be legally required to make up the additional $15,000 of the firm's debts. This unlimited liability of a partner for the debts of the partnership, together with his responsibility for the actions of his partners, sometimes makes the form of organization a dangerous one. A further disadvantage of the partnership is the necessity of reorganization on the death or withdrawal of a partner. Such an event, occurring at an inopportune time, has not infrequently occasioned serious losses to the remaining partners. It is because of these disabilities and the superior advantages offered by the corporation that the partnership has come to occupy its present relatively unimportant place in American business. For the most part it is applied to comparatively small undertakings carried on by two or three men in intimate relations with one another. A striking exception to the rule of smallness is found in the banking field. Some of the most important banking houses in the country, including the great Morgan firm, were for many years carried on as partnerships.

The characteristics of the partnership enumerated above do not apply without qualification to every business of this type, but the law of partnership is in general based on these principles. The specific rights and obligations of the partners in a particular enterprise are set forth in the articles of partnership, when such a document exists. Very commonly they rest on nothing more formal than a verbal agreement, under which a partnership often exists for years to the satisfaction of everyone concerned.

Corporations and Co-operatives

The small corporation is economically the same thing as the individual proprietorship or the partnership, though it has a different legal form. The discussion of the corporation in its legal aspects and its financial relations is deferred to our next chapter, but it is necessary at this point to indicate that great numbers of small undertakings are organized as corporations, though they actually operate like other small enterprises. The corporation is defined by Seager and Gulick as "a voluntary association endowed with autonomy and continuity of existence through a government-granted licence or charter." Under American law it has practically all the business rights of natural persons, including the right to own and control property, the right to make legally binding contracts, and the right to sue and be sued. In addition, it has a continuity of existence, extending under the laws of twenty-three states to perpetual life, so that the death of the most important officials may occasion no interruption of its business affairs. The same writers remarked:

"Putting all of these advantages together, we have a situation in which business men who incorporate their enterprises retain practically all of the rights and privileges which they enjoyed as individual enterprisers or partners, and gain important new rights and privileges."[2]

In consequence of these advantages the corporate form of organization has been applied both to the large enterprises discussed in Chapter Ten and to great numbers of small undertakings in which there is no industrial necessity for it. The majority of American business corporations are small affairs, in which a few individuals pool their wealth by incorporating and then run their business much as though it were a partnership. Indeed, we have many corporations that are, in fact, nothing but an incorporation of the business of a single individual. Of the 456,000 active corporations reporting for income-tax purposes to the Bureau of Internal Revenue in 1929, almost exactly two thirds reported either a net income or a net deficit under $5000 on the year's operations, and almost seven tenths of the corporations submitting balance sheets in that year had assets of less than $100,000. These today are inconsiderable business undertakings. Any person familiar with business facts knows how numerous are little corporations with a capital of five or ten or twenty-five thousand dollars. Such concerns are no more than elder brothers to the little one-man proprietorships. The incorporators use their own money, run their own business, enjoy all the profits if there are any, or bear the losses if they are so unfortunate as to incur them. Such corporations are practically individual proprietorships or partnerships with a corporate false face. The fact of their incorporation, while it affects relationships within the business unit, has no large economic significance. It may be doubted whether the economic situation as a whole would be very different if they did not have the legal right of incorporation and were therefore still operating legally as individual enterprises or partnerships. For purposes of our study we group them with other small undertakings.

Co-operative associations constitute a fourth form of business organization, sharing some of the characteristics of both partnerships and corporations. The laws of many states give them a status not unlike that of non-profit-making bodies, which they often are. Unlike the condition with partnerships, the financial liability of members is strictly limited. The larger co-operatives are agencies for marketing; the small ones are commonly engaged in retail trade. Something of the significance of this form of organization was implied in Chapter One. It is mentioned here only to indicate that producing units may exist which do not correspond exactly to any one of the three described above.

[2]*Trust and Corporation Problems* (Harper & Brothers), pp. 11, 23.

Farming

The small enterprise in American business today is chiefly the individual proprietorship, the traditional form of business undertaking and the one that has given its set to the individualistic thinking of most Americans. The proprietorship holds the field in our agriculture, as it has always done. We had in 1940 about 6,096,000 farms, of which only 56,000 were operated by employed managers. The 3,699,000 farms operated by owners were all, broadly speaking, separate business undertakings, though a few farmers operated more than one farm. The same thing is true of the larger part of 2,361,271 tenant-operated farms, though here one important exception must be noted. Among the tenants in the Southern states there were 242,000 sharecroppers, who in general are independent farmers in nothing but name. Practically, most of them work for the landlord, who furnishes the work animals and everything else and in return receives a share of the crop. In fact, as opposed to legal form, most of them are not independent businessmen but hired workers, many of them getting the barest pittance for their work. The same thing may be true in lesser degree of a small number of other tenant farmers; but the number of independent business units in agriculture alone must be nearer six million than five million. Nor does any strong tendency appear for this basic organization to change, though we have striking changes in tenancy over a considerable period of time. But the tenant farmer, it must be remembered, generally runs his rented farm as his own independent business undertaking just as truly as though he owned the land himself. During the depression of the early thirties there appeared a tendency on the part of banks, and other lenders that had taken over farms by mortgage foreclosure, to run their properties themselves through a manager, rather than to lease or try to sell in a depressed market. But it may be doubted whether such an attempt represents anything more than a temporary movement, dictated by impermanent circumstances. As a matter of fact, the actual number of independent farmers increased sharply during the depression. Throughout our history down to the present time the family-sized farm, the farm that can be worked by the operator and his family, perhaps with the help of one or two hired men, has maintained itself as the well-nigh exclusive business unit in general farming. Our farmers are today, as they have always been, far and away the most numerous group of independent businessmen, brought up in the tradition and practice of small-scale individual business. They give no evidence of being a disappearing element in our economic life even under the impact of increasing mechanization of the work of a farm, with the consequent increase in the need for capital investment.

Retail Trade

Retail tradesmen constitute the next great class of small businessmen. Every village and small town in the country has its general store or its more specialized groceries, hardware stores, drugstores, and the like. They are run largely as independent organizations, despite the way in which the chains have crept into the larger towns. Even in the cities, with their department stores and other huge retail establishments organized in corporate form, we yet find thousands of small, individually owned and operated shops, selling almost every conceivable kind of product. Some of them are high-grade specialty shops dealing with an exclusive clientele; others handle job lots sold at slaughter prices. Some have been in existence for decades; others reckon their business life by months. All together they constitute an important part of our machinery for the marketing of goods, and their proprietors constitute numerically a very respectable fraction of the total number of independent businessmen of the country. A considerable proportion of these retail proprietors maintain themselves permanently in independent positions. Everyone knows retail merchants who, year in, year out, make a modest living out of their business, and perhaps pass on a competence to their children. On the other hand, the group is constantly being recruited by newcomers who somehow get control of a little capital and set up for themselves, only to discover that they cannot make a business pay. Observation of any block of retail store buildings over a period of years discloses a surprising rate of business mortality among those who rent them, and suggests the basis of the traditional statement that nine out of ten businessmen fail.

The census reports the total number of retail dealers in 1940 at about 1,770,000 and gives the total number of chain stores as just under 123,200. Of the total, 1,350,000 were individual proprietorships; 189,000, partnerships; 3230, co-operatives; 210,000, corporations; and 9000, unclassified. As 91.2 per cent of retail establishments are classified as small business, defined as establishments with annual net receipts of less than $50,000, it is clear that many of the corporations must belong to that category. Of the total product of retailing, 42 per cent comes from small stores. Despite the inroads of the chains, the mail-order houses, and the supermarkets, small retail business as a whole shows no tendency to disappear, either in the city or in the small town. However precarious the hold of many of its individual members on business life, the group remains as a permanent and important element in our economy. Between 1929 and 1935 the small retail establishments increased in number and in their proportion of the total volume of sales. How much of their prosperity is due to legislation against the chains cannot be determined.

The Service Industries

If we pass from the field of retail distribution over to the service industries, we again encounter small businessmen in great numbers. The motorist may have his car regularly serviced in a big city garage, but on the road he encounters not only the individual filling station but the garage run by an ingenious mechanic, who, with the help of an assistant or two, manages in some mysterious way to do everything that the modern automobile requires. There are chain beauty parlors and barber shops, but first aid to beauty and to hirsute humanity is largely supplied by separately owned small shops. In the rendering of all kinds of services for which small capital is required and in which success is largely dependent on individual skill and capacity, the proprietorship finds a relatively favorable field. Large numbers of people so strongly prefer to work for themselves rather than for somebody else, and have such great faith in their own ability and luck, that they are ready to take the chances involved in independent business enterprise. The able and fortunate manage to keep going, perhaps even to accumulate something; the others have to drop out and work for somebody else. A surprising number survive.

It would be rash to hazard even a wild guess at the number of small independent business undertakings in these industries, but the total would certainly surprise those persons who speak glibly of the disappearance of small business. We know that there were about 70,000 garage-owners and repair workers in 1939 and some 216,000 barbers, hairdressers, and manicurists, most of whom worked in small shops, of which the Census Bureau reported more than 200,000. Over 30,000 unincorporated proprietors helped to provide amusement for the American people in 1939; 13,000 such proprietors offered roadside cabins to the traveler. Of all service establishments nearly 99 per cent are small businesses by the measure of the capital employed. Most of them are trifling affairs, in many instances netting only a few hundred dollars a year; yet they provide 66 per cent of the services we require, and as consumers we pay to them annually the impressive sum of five billion dollars. We are not here dealing with the nearly five million persons listed by the census as engaged in domestic and personal service, who work for wages for others, though the line between running an independent business and working for wages may sometimes appear shadowy.

The Learned Professions

The business side of the so-called learned professions is ordinarily given little attention, because they are thought of chiefly in other relations. It is

a pity that the members of such professions do not, in fact, give more consideration to their business relations. They might be more intelligent and useful citizens if they did. Practically all our 1,063,000 teachers and 149,000 preachers are employees, working on salary either for the state or for private employers, usually nonprofit-making corporations. On the other hand, for the most part our 224,000 dentists and doctors and our 161,000 lawyers, in the ordinary practice of their profession, are independent businessmen, not working on salary for others or as part of a big organization, but making their own charges for the particular services they render. The extensive studies of the Committee on the Costs of Medical Care have clearly indicated the economic inefficiency and wastefulness of the present business organization of the medical profession, and the air is full of suggestions and experiments in the way of group arrangements of various sorts between physicians and their patients. Most physicians, however, are fearful of the loss of the personal relations that have existed in the past. Therefore they cling to the present unsatisfactory business arrangement. Of the 294,000 trained nurses in the country, it is difficult to say just how many are engaged in private work on their own account and how many are employed on salary by institutions and by physicians, but whatever the number in the first group, they must be included among the proprietors of independent small businesses, in the comprehensive sense in which we are using that term. The professional group as a whole would plainly add at least several hundred thousands to the number of such business units. In this connection it may be suggested that since we include among our business units those who have services to sell, such as doctors and nurses, we might easily extend our conception and include all those who sell their labor. To consider the wage-earner as a businessman with services to sell may help to an understanding of some of his economic problems. The student will have no difficulty in discovering both likenesses and differences between the business units which are here considered and the wage-earner as a business unit.

Other Groups

In this rapid glimpse at the small business undertakings of the country, we have omitted all consideration of financial business, including banking and insurance, of wholesale trade and the sale of real estate, of transportation and communication (except for garage service), of mining, and of manufacturing and mechanical pursuits. These important lines of business are the stronghold of the corporation; yet there are undoubtedly, at the lowest possible estimate, more than a million small proprietorships in these lines. There are more than

a few little banks and individual moneylenders. Every town has its small real-estate concerns. The motor truck was responsible for a revival of small individual enterprise in transportation by highway. Nobody knows how many of the million chauffeurs and truck-drivers enumerated in 1940 were driving for themselves, but the number is legion, as anyone acquainted with trucking and taxi service realizes. In manufacturing, one of the strongholds of the corporation, 91 per cent of the plants are small, meaning that they employ no more than 100 workers each. As a whole they utilize the services of from 25 to 30 per cent of all employees found in manufacturing and produce 30 per cent of our total product. In the building trades alone there are employed more than two million workers. How many of these are working for other people, and how many of them are carpenters and painters and masons and plumbers and electricians running their own businesses? Certainly the number of the latter runs into hundreds of thousands, at the lowest; and if we were to go into all the other kinds of business included in this census classification, we should certainly find other thousands of little independent establishments, each of them pursuing its own policy and prospering or dying according as its earnings do or do not suffice to meet the expenses of the person, or perhaps two or three persons, doing business as a separate unit.

Summary

Table XI presents a summary of conditions in a prewar and a war year. Here the dividing line between large and small firms is the employment of 50 workers. Certain striking contrasts are made evident by the figures. Though 87.9 per cent of establishments in mining and 93 per cent in transportation are small establishments, only 19 per cent of the workers in the former and 21.4 per cent in the latter work for small establishments. Between 1939 and 1943 the proportion working for small units declined in every industry except construction, even though the decline in the proportion of small establishments to the total number was slight.

Why the Small Concern Persists

Will the small undertaking persist in the face of the growth of corporate behemoths that have almost completely occupied certain parts of the business field? Does the fact that independent business has maintained itself in the past mean that it can continue to do so? Past persistence, it should be remembered, does not imply prolonged life on the part of particular firms. It is the group which has persisted, not the individual concern. Mortality is

Table XI · Per Cent of Number of Employing Organizations and Employment[3]

INDUSTRY (by Number of Workers Employed)	PER CENT OF FIRMS		PER CENT OF EMPLOYMENT	
	1939	1943	1939	1943
All industries				
1–49	96.5	96.3	34.1	25.3
50 or more	3.5	3.7	65.9	74.7
Mining				
1–49	87.9	89.5	19.0	16.6
50 or more	12.1	10.5	81.0	83.4
Construction				
1–49	97.1	95.2	42.3	54.1
50 or more	2.9	4.8	57.7	45.9
Manufacturing				
1–49	82.2	80.0	17.1	8.3
50 or more	17.8	20.0	82.9	91.7
Transportation				
1–49	93.0	94.0	21.4	17.5
50 or more	7.0	6.0	78.6	82.5
Trade				
1–49	98.5	98.4	58.8	52.6
50 or more	1.5	1.6	41.2	47.4
Finance and services				
1–49	98.0	97.9	66.4	53.7
50 or more	2.0	2.1	33.6	46.3

high, but is offset by a high birth rate. There is, undoubtedly, widespread fear that all is not well with this section of our economy. Such uneasiness is responsible for the introduction in the Congress of over four hundred bills since 1933, all intended to assist little business. The suggestions for aid have taken many forms, ranging from credit assistance, and bureaus of research which shall supply technical advice, to special tax privileges and relief from report-making.

The difficulties of the war years aggravated the nervousness of the single proprietor and his friends until many were found to declare that the day of independent business was over. The facts scarcely support any such contention. It is true that, in 1944, 434,400 businesses were closed, but the number closed in 1929 was 483,000. The entire number discontinued during the five war years was not greater than that of most five-year periods. The rate of discontinuance was highest in one-man shops, which were frequently closed because proprietors were attracted to more lucrative opportunities. The reduction in total number of establishments is to be attributed not to an excessive number of failures but to great difficulty in establishing new units. For example, in 1929, 453,000 new businesses began life; in 1942, 220,000; and in 1944, 431,200—not as many as ceased to operate. The complaints that

[3] *Survey of Current Business*, April, 1945, p. 14. Railroads are omitted.

flooded newspapers and radio programs related chiefly to small manufacturing plants, which, it was believed, failed to share in war contracts, to their own loss and that of war production. To remedy this undoubted defect in the production program, the Smaller War Plants Corporation was created in the summer of 1942, its primary purpose being to make certain that the equipment of small plants was fully utilized in the war effort. Under this agency idle capacity was located, credit was made available, and technical advice and access to essential materials were provided for minor units. Subcontracting was extended, and prime (direct) contracts were distributed to many of the smaller firms. Complaints that its activities were futile were unending; yet its total accomplishment, in the face of great difficulties, was impressive. From the reports of numerous surveys made during the war years it is safe to conclude that at least two thirds of the small plants of the country both contributed to war production and shared in the business profits of the period. In one study of plants employing between one and 125 workers, only 4 per cent were found to be suffering from lack of war contracts. To carry out their productive programs, such corporations as General Motors and Douglas Aircraft used from 1800 to 2000 subcontractors, between 50 and 60 per cent of them small. The charge that production policies during the war years destroyed small business can scarcely be substantiated. A study of the figures of Table XI might serve to allay much uneasiness.

While war production accentuated the cleavage between the two parts of our business community, it is not to be thought that it created the cleavage. Anxieties which existed before the war sharpened during its progress and are still with us in postwar years. Underneath the fear that small business is doomed is the uneasy suspicion that big business is more efficient. Because of its physical size, its financial resources, its greater opportunities for specialization along many lines, it is able to cut its costs and thus to undersell its small rivals. If this is true, the interests of the consumer would be served by the elimination of the small producing unit. The village blacksmith was doubtless a picturesque figure; but he scarcely answers today's needs, and we render no service by clinging to him. To this the advocate of small business replies that the little concern persists because in its own particular field or under its own particular circumstances and conditions it continues to provide goods or services more satisfactorily or at a lower cost than the great corporation can furnish them. The comparative advantages of the one type of organization and the other vary according to a multitude of circumstances.

The personal relation of the proprietor to his customers, his employees, and his creditors, earlier referred to, may be of great importance. Thousands of small retail shops live on the skill, the taste, the enterprise, the industry, the

reliability, and the friendliness of their proprietors; and no competition, whether of chains or of department stores, can oust them. The individual proprietor's intimate knowledge of the wants of his clientele and of all the particular details of his own business, his direct personal interest in everything that occurs and his ability to make immediate adjustment to any change in conditions, his unsleeping oversight of his handful of employees, his instant personal concern with everything that promises gain or threatens loss to his business—all these things work to the advantage of the small individual undertaking as against the great corporation, which has to carry, in addition to its other costs, the heavy overhead of an elaborate, expensive, and often cumbersome organization. The spokesman for small units may even leave the realm of economics to declare that only in a regime of small proprietors can a democracy flourish.

What Justice Brandeis truly enough characterized as "the curse of bigness" is a real and important thing. It is doubtful whether the great corporation can furnish service more cheaply than the well-managed small concern except in industries that require for economical operation the aggregation of capital in large masses. From such industries the individual proprietor is excluded by the very nature of things. Elsewhere, the comparative economy of production by the small individual concern and by the large corporate unit is, in reality, a complex question to which no dogmatic general answer can safely be given. Suffice it to say, as we have done, that both types of business units exist side by side in the American economy today, that they have so existed for many decades, and that despite the striking comparative growth of the large corporate type there is no evidence whatever that small business units are actually on the road to extinction. Each organization meets a particular need. Therefore each maintains itself in the face of the constant competition that goes on among them. Though there are occasional wild forecasts of the universal spread of the great corporation, small business persists.

CHAPTER NINE

Corporate Accounting and Finance

SINCE the general development of large-scale private enterprise has been made possible only by the application of the device of the corporation applied to business organization, we must, before we can consider the large business unit intelligently, examine the corporate form itself quite apart from any considerations of size or particular businesses. The question of the location of control within the corporation, as well as the all-embracing question of its economic significance, we shall come to in the next chapter. They cannot be examined with understanding until we have first examined its financial structure, though its finances interest us only as they help us to comprehend the larger relationships of this powerful form of business organization. The student, in finding his way through the bewildering details which make up the remainder of this chapter, must constantly bear in mind that the corporation is primarily an agency for the production and distribution of goods. The elaborate financial mechanism which we here endeavor to clarify, and in a measure to simplify, is never to be conceived of as anything but a means to an end, though often the means has become so complex and so important to those who manipulate it that the end is completely lost to view.

The definition given in the preceding chapter enumerated four characteristics of the corporation. It is often spoken of as a legal person, since, as we have seen, under the law it possesses many of the legal rights of a natural person. In a celebrated opinion Chief Justice Marshall referred to a corporation as "an artificial being, invisible, intangible, and existing only in contemplation of law." The phrase is useful in suggesting that the act of incorporation creates a legal entity separate from the incorporators. They voluntarily associate themselves for certain purposes. The state (or in a few instances the Federal) government, by granting their association a charter, not only gives it the powers necessary to carry out those purposes, but grants it complete powers of self-government within the broad limits of the corporate law and the charter rights, and endows it with what becomes substantially perpetual life, though all charters are revocable for cause. Thus the powers of those persons who control the corporation are materially extended.

For the better ordering of their affairs and for the protection of property

jointly controlled, a great variety of groups incorporate. Many clubs for purely social, athletic, and like purposes are incorporated. Churches, private schools, colleges, universities, hospitals, libraries, charitable and philanthropic institutions of every kind, including the great foundations, exist chiefly in corporate form. Even our city and town governments are corporations of a special type, though we think of them as purely political institutions. The law of membership of municipal corporations necessarily differs in important particulars from that of business corporations, but it must not be forgotten that the business corporation is but one species of a much wider genus. In our study we are concerned with the differences that have been brought about in the organization and functioning of private business by the application in the business field of the same corporate device that has been so extensively employed elsewhere. From this point forward, our discussion will concern itself with business corporations only.

The Business Corporation

The powers of a corporation are laid down, and its structure is prescribed, by its charter. It has no legal right to act outside its granted powers, but this is no great hardship, as these powers are often exceedingly broad. Its life is continuous and, as already stated, practically perpetual, so that its policies and performance may be continuous and not contingent on the life of an individual, though of course an individual may dominate a corporation. Aside from these features, the most important characteristics of the corporation as they have affected business are the joint-stock principle and the principle of limited liability.

The ownership of a corporation rests in its stockholders and is represented by transferable shares. If one thousand shares of common stock are outstanding and no other stock has been issued, the holder of one share owns one one-thousandth part of the corporation. It is necessarily undivided ownership, since the corporation is a unit, the fact being simply that all the stockholders together own the whole corporation. Ownership of stock in a corporation is a completely different thing from ownership of a farm or a blacksmith shop, which gives the owner power to do as he pleases with that property within the broad lines laid down by law. The owner of a share of stock, on the other hand, owns no tangible property comparable to the farm or the blacksmith shop; the corporation, as a corporation, owns such property.

The principle of limited liability supplements that of joint stock. The stockholder is liable only for what he has put into his stock (though in some special cases he is liable to an assessment). Suppose that a man owns a single

share of the stock of the American Telephone and Telegraph Company, for which he paid $150. Let that five-billion-dollar telephone company fail, if such a thing can be imagined. Our humble stockholder might conceivably lose his $150; he could not lose more. The combination of the joint-stock and the limited-liability principles has made it possible for the individual to invest in the corporation and has thus made possible the growth of great business units in corporate form.

The stockholder, by virtue of his ownership, has three rights and powers: (1) the right to take part in, and to vote at, meetings of stockholders, which right the small stockholder in the large corporation practically never exercises, except by proxy; (2) the right to receive dividends on his stock, provided the directors of the corporation consider it wise to make such distribution from the profits of the company; and (3) the right to dispose of his shares of stock as he pleases, as by sale or gift, or to use them in any other way he will.[1]

Corporation Securities: Preferred and Common Stocks

Corporations obtain the necessary funds for their creation and initial operation by the sale of their securities to those who wish to become their owners or creditors. Once they are operating successfully, they may obtain additional funds by a further sale of securities or by investment of some of their own earnings, as will be explained later. Securities are of two great classes, theoretically distinct in character, practically merging into each other by gradations. Corporate stocks or shares are in theory certificates of fractional ownership, as already explained; bonds are evidences of debt. Stocks, in turn, are of two general classes: common and preferred. Preferred stocks ordinarily carry a preference over common both in the distribution of earnings and in liquidation. If the directors in any year determine to pay a dividend to stockholders, the preferred stock must get dividends in full up to a specified rate before the common stock receives anything. Suppose that a corporation has outstanding $100,000 par value of 7 per cent preferred stock and $200,000 of common stock. Say that the directors decide to distribute $11,000 to the shareholders. A 7 per cent dividend must first be paid on the preferred. This takes $7000. The common stock can get only the remaining $4000, thus receiving 2 per cent. Further, preferred stock is often cumulative. That is to say, if in any year its full specified dividend is not paid, then in future the arrears must be made up, together with the current dividend, before dividends can be paid on the common. Suppose that the preferred stock above in a

[1]We do not at this point enter into the complications of nonvoting stock and the voting priorities of various kinds of stock. They will be touched on later.

certain year received only 2 per cent and during the next year its dividend was passed entirely. There are $12,000 arrears on the preferred. If dividends are then resumed, the common stock can get nothing until the 12 per cent back dividends, in addition to the full current 7 per cent, have been paid to the preferred.

On the other hand, the returns on preferred stock are limited to the specified rate unless the stock is also made participating. With participating stock it is provided that after the common stock has received some specified rate, further distribution shall be divided between the two kinds of stock in a specified proportion. Suppose, in our example, it is provided in the terms specified when the stock is sold that, after the common has received 8 per cent, the preferred shall participate equally with the common in further distribution. In a certain year $31,000 are available for dividends. Seven per cent on the preferred and 8 per cent on the common take $23,000. This leaves $8000 to be equally divided, each class receiving an additional $4000. Preferred stockholders in this year will get 11 per cent and common, 10 per cent. If the preferred stock had not had the right of participation it would have received 7 per cent and the common, 12 per cent. Preferred stock very commonly is issued with the cumulative feature; it is more rarely made participating. Also, there may be more than one class of preferred stock, with differing rates of return specified, and with the first preferred enjoying priorities over the second in the same manner that the second enjoys preference over the common. It must be clearly understood that the specifying of a rate of return on preferred stocks is in no sense a guarantee of payment. It means only that if earnings are available for distribution, the preferred stockholder is entitled to receive returns at that rate before the common stockholder gets anything. Stockholders of both kinds are in theory owners of the business and as such carry its risks. They in general receive returns only if the business is profitable.

Preference in liquidation, usually attached to preferred stock, may be simply illustrated. A corporation fails, and its assets are sold and the proceeds distributed. After paying all its debts, including its bonds, only $240,000 is left for the stockholders. The preferred stockholders in theory receive $100,000, the full par value of their stock. Only $140,000 is left for the holders of common stock, or 70 cents on each dollar of stock. Preferences and participations in respect to both distribution of income and liquidation may vary in all sorts of ways, but the relations here described are those stipulated in many corporation charters.

By contrast with preferred stock, which enjoys the preferences cited, common stock carries full risks of the business, both in distribution of income and

in liquidation. If earnings are inadequate, it may go wholly without dividends, while the preferred receives its stipulated rate undiminished. In liquidation likewise it may suffer complete loss, while the preferred stock is paid off in full. On the other hand, if earnings are large and the preferred stock, as is usual, is nonparticipating, the common stock may get high dividends. If a highly profitable corporation is for any reason liquidated, the common stockholders, as residual owners of all that is realized after the preferred stock has been paid off at par, may receive more, sometimes much more, than the par value of their stock. Common stock thus carries not only a greater risk, but also, under certain circumstances, the possibility of greater gain, than preferred. The latter appeals to a somewhat more conservative investor than the former, and it is partly in the hope of adapting their security offerings to all tastes, thus broadening the market and raising the prices realized, that directors have diversified their stock issues.[2]

Preferred stock often has the same voting rights as common. In other instances it is allowed to vote only if dividends have remained unpaid over a specified length of time. Sometimes it is not allowed to vote at all. Voting power may be in fact no less capriciously distributed between the two kinds of stock and among the various classes of each kind than are preferences and participations in respect to distribution of income and assets. Such diversification is not uncommonly connected with the desire of management to concentrate control in a certain class of stock, which may be given exclusive voting power and may be held largely by the managing interests themselves. Some of the effects of this we shall examine in the next chapter. Where only a single class of stock exists, as in the American Telephone and Telegraph Company, it is self-evident that it must be common stock.

Par, Book, and Market Value of Stocks

In dealing with stocks we have spoken of par value. The term applies likewise to bonds, but we deal with it here in connection with stocks. We have already stated that the basic idea of shares of stock is that of fractional ownership. Three owners with a business worth $100,000 decide to incorporate. They issue 1000 shares of stock, divided among themselves in the ratio of 200, 300, and 500. The three shareholders own, respectively, two tenths, three tenths, and five tenths of the corporation, worth $20,000, $30,000, and $50,000. Suppose that in issuing the stock a par value of $100 a share is put on it. Their shares would both nominally and actually be worth $20,000,

[2]Sometimes there is more than one class of common stock outstanding, but we shall not enter into this complication.

$30,000, and $50,000 respectively. But suppose they set the par value at only $50 a share. Their shares would nominally be worth only $10,000, $15,000, and $25,000, but actually twice those sums, since each owner in reality owns his definite fraction of the corporation, whose true value we have assumed to be $100,000 and not $50,000. Return to our assumption of a par value of $100 a share, so that the nominal value of 1000 shares and the actual value of the business at the time of issue were the same. Now suppose that the business develops successfully, and after five years is worth $200,000. Each share is actually worth $200, though its par value remains at $100. We have said enough to show that the par value of a share of stock is a purely nominal one, which may equal, exceed, or be less than the real value of the fraction of the business represented by the stock, and that change in the value of the business inevitably changes the value of the stock, though its par remains unaltered.

Par value is usually of practical importance in the liquidation of preferred stock, because the preferred stockholder is entitled to its par value, and it serves as a basis for stating the rate (not for determining the amount) of dividends on common stock; but no significance attaches to it as an indication of actual value. If stock were never issued for less than a price approximately equal to its par value, and if it were never issued except for money or its equivalent in an amount equal to such a price, investors and creditors would at least have in the par value of the stocks some assurance of the amount of money that stockholders had put into the corporation and that the corporation had presumably expended in acquiring its assets. Neither condition bears much resemblance to the facts of American stock issues. British corporations have made extensive use of stock with no par value, and after New York legalized the practice in 1912 American corporations displayed an increasing tendency to make use of the same device. They employed it in such tricky and sometimes fraudulent ways that informed American opinion during recent years has become increasingly unfriendly to it, notwithstanding the strong theoretical case that can be made for it.

Book value and market value are to be sharply distinguished from par value. The book value of a share of stock is its value as indicated on the books of the company; its market value is what it is selling for on the exchange or any other market in which it is bought and sold. Neither is dependent on par value. Suppose that the books of the company just considered show total assets of $250,000 and that its liabilities to all others than its stockholders total $80,000. Then the net book value of the company, the so-called stockholders' equity, is $170,000. Each of its 1000 shares of stock has a book value of $170. Suppose that at the same time the earning prospects of the company are so

promising that people are offering $210 a share for its stock, at which price sales are made. The market value of the stock is $210, as against a book value of $170 and a par value of $100. On December 31, 1944, the book value of a share of common stock of the Curtiss-Wright Corporation was slightly above $8, the par value was $1, and the shares were selling on the Stock Exchange for $5.75. When the value of stock is spoken of, it is the market value that is ordinarily in mind. If there is more than a single class outstanding, the determination of the various values of the different issues is a more complex process, but the essential principles are those of our simple illustration.

Corporation Securities: Bonds

The second class of corporate securities consists of bonds. A bond is the promise of a corporation to pay a fixed sum of money periodically for a series of years (interest) and at the end of the period to pay another sum (the principal). A $1000 5 per cent 30-year bond is the promise of the debtor corporation to pay to the owner of the bond $50 each year for 30 years and $1000 at the end of that period. There is a bewildering variety of bonds, but in essence all of them are simply debt instruments like that just described. What differentiates them from stocks is that legally stocks are evidences of ownership, while bonds are evidences of debt. Economically, as we shall see, with large corporations the distinction between the two is slight. Bonds contain special covenants of many kinds, and embody the most diverse provisions for security —largely unreal, as also will appear. Mortgage bonds are secured by pledges of property: sometimes specific, as a bond of a real-estate company secured by a particular building; sometimes general, like a general mortgage bond of a railroad, covering its entire property. If there is default, the mortgagee has the legal right to take over the pledged property. The right is often illusory. Such mortgage security in fact amounts to little more than the obtaining of favorable strategic position to fight in court for the assets of the debtor corporation in the event of bankruptcy. The real security of corporation bonds is the earning power of the issuing corporation. It is the priorities of the claims on earnings, and on assets of the various bond issues should the company be liquidated, that determine their comparative value, rather than the specific property that may happen to be pledged against them.

Debenture bonds are unsecured by any pledge of property. They are nothing more than long-time promissory notes resting on the credit of the corporation. In July, 1938, the Standard Oil Company of New Jersey sold $50,000,000 worth of 15-year debentures at a price to yield only 2.83 per cent to the buyer. Nothing could illustrate more clearly than this low interest

return the dependence of bond value on corporation credit rather than on pledge of property. Income bonds do not even promise unconditional interest payment, but only payment if interest is earned; they do promise definite payment of principal at the maturity of the bond. In effect, they are a means for the repayment of debt, with a promise to pay interest to holders only in years when interest is earned. A company with mortgage bonds outstanding on which it was unable to pay the fixed interest charge might, in a reorganization, induce its bondholders to exchange their mortgage bonds for income bonds. With a view to increasing the attractiveness of the securities, a corporation sometimes issues convertible bonds. Such bonds give the holder the right under certain conditions to convert them into the preferred or common stock of the company. This privilege may become valuable to the bondholder if the business of the corporation becomes so profitable as to create a reasonable expectation of regular and generous dividends, thus making the stocks definitely worth more than the bonds with their fixed returns. The convertible feature thus tends to make bonds sell for a better price at issue. There are dozens of other variations in kinds of bonds and the provisions of their issue.

Despite the fundamental legal difference between stocks and bonds, the buyer of corporate securities finds a constantly increasing economic approximation of the two. Stocks represent ownership, and, theoretically, control, and power to direct the business. The income they promise is the profits of the business, if profits are earned. The directors may, and frequently do, retain a part of the profits in the business for its enlargement, presumably to the ultimate advantage of the stockholders, but evidently to the detriment of immediate dividends. Bonds bestow on their owners no power of electing directors or controlling the business. In general they promise a fixed return at specified times, and if these and all other covenants are not fulfilled, the bondholder may legally bring suit and may conceivably throw the corporation into bankruptcy and reorganization. The two classes of securities are thus completely different in legal rights and in economic analogy. Yet the ordinary investor pays scant heed to these distinctions. When he contemplates buying corporate securities, his primary concern is with the safety of his principal and the amount and certainty of the return on it.

The Process of Issue

The process of issue is simply the process by which the corporation sells its securities. There are many different methods. Sometimes a corporation, wishing to sell additional stock, offers its stockholders the right to subscribe

at a specified price, and they buy the entire new issue.[3] The stockholders pay over their subscription price and receive the shares, and the act of issue is complete. More commonly an established corporation sells its securities in the general market. Under such circumstances it has recourse to the services of the investment banker, who is essentially a securities middleman. The buyers of new securities are chiefly institutional investors like savings banks and insurance companies, which constantly have large sums of money coming in to be invested. Most corporations have little knowledge of these investors and their present demand for securities; such knowledge, on the other hand, is the very essence of the service of the investment banker, whose business it is to know and help to meet this demand. As the name implies, an investment bank is concerned with investment, even though it is called a bank. The corporation desirous of raising new capital announces its intention of offering securities, registers its proposed issue with the Securities and Exchange Commission, and, if it is a public-utility company, asks for bids. Other industries may dispense with competitive bidding and sell directly to investment bankers of their own choice. Those investment bankers who are interested form underwriting syndicates, sometimes containing as many as one hundred member banks, often scattered through the entire country. These syndicates propose their competitive bids, and the accepted bidder agrees to take over the issue, each member to an amount specified in the syndicate agreement. The members also agree among themselves on the price at which the security is to be offered to the public. Each co-operating investment house has thus made itself responsible for the sale of a given amount of the issue, and, if it has not sold its quota during the period of agreement, is bound to take over the unsold balance itself at the price specified to the corporation.

The investment banker makes a profit equal to the difference between the price he pays the corporation and the price at which he sells his allotment to the public. He runs the risk of loss if the price he can realize turns out to be lower than that which he has promised the corporation. The underwriter thus guarantees the sale of the issue (in reality buys it) at a fixed price, hoping to sell to the public at a higher price. Such guarantee is the essence of underwriting. Since the underwriters fix their offering price to the public at the point where they believe the issue can be sold, the issuing corporation (the issuer so called) in effect pays the syndicate the difference between the price guaranteed to it and the price paid by the public. This payment the issuer makes in return for the underwriters' services in selling the issue and in bearing the risk that it may not command from the public the anticipated price. A

[3]The verb "issue" means to create and sell securities; the noun "issue" is often used to cover the securities thus sold.

further point is worth mention. The security price that concerns the corporation is the issue price, not the prices that subsequently prevail on the stock exchange, though the latter are of importance as indicating the price which the company might hope to realize for future issues. The Standard Oil Company for its issue in 1938 received from the underwriters at issue $972.50 for each $1000 bond sold. The bonds rose above par almost immediately; but the company did not on that account receive any additional money, nor will it lose any if the bonds go below par at any time during the fifteen years in which they are outstanding. Changes in price of corporate securities subsequent to issue bring gain or loss to security-owners, not to the corporation.

Issues of debenture bonds by the American Telephone and Telegraph Company in 1945 offer an excellent illustration of modern underwriting practice. The directors decided on new borrowing for the purpose of retiring two bond issues not due until 1966. The fact that the earlier debentures called for an annual interest payment of $3\frac{1}{4}$ per cent, whereas in 1945 bonds could be sold which paid $2\frac{3}{4}$ per cent, makes clear the reason for this decision. The corporation registered the issue with the Securities and Exchange Commission, as required by law, and in July made public announcement of its intention to sell $175,000,000 worth of 35-year, $2\frac{3}{4}$ per cent debenture bonds, and asked for bids. Two syndicates were formed, one by Morgan Stanley and Company, one by the Mellon Securities Corporation and Halsey Stuart, Inc. The first of these groups of underwriters, containing one hundred and two members, won the issue by a bid of 99.559, and paid to the company a check for $165,479,825, on which amount the company will pay an annual interest of about 2.77 per cent for 35 years, unless it exercises its right to retire the bonds at an earlier date. The members of the syndicate sold their allotments to the public at par, in less than two hours from the time their books were opened.

Two months later the same corporation requested bids on an offering of $160,000,000 worth of 30-year $2\frac{3}{4}$ per cent debentures, due October 1, 1975. The same investment houses that had formed the earlier syndicates organized underwriting groups to bid on this issue, and with the same result. The bid of the Mellon Securities Corporation of 99.6811 was surpassed by an offer of 99.8199 from Morgan Stanley and Company, who, through the members of their group, sold the issue to the public at $100\frac{1}{4}$. The entire transaction, from the sale of debentures by the company to the syndicate to the completion of the sale by the underwriters to the ultimate investors, took a little over an hour. To the American Telephone and Telegraph Company the net proceeds were $159,298,840; to the underwriting banking houses, one hundred in number, the returns were $702,000, a modest compensation when contrasted with those of the lush days at the beginning of the century.

The creation of the United States Steel Corporation illustrates earlier practices and earlier profits. Here the banks themselves took an important part in the security flotation, aside from their purely underwriting function. At the formation of this company, which involved stock issues of half a billion dollars each of common and preferred stock that in large part were to be sold to the public, the banking syndicate headed by J. P. Morgan and Company actually received stock worth about $130,000,000, par value, in return for a money payment of $25,000,000 and about $3,000,000 worth of banking services. Just what the bankers later received for the stock is not known, but the Commissioner of Corporations estimated their profits on the transaction at $62,500,000.

What is the source of the funds which corporations accumulate by the sale of securities and invest in productive agents? The answer commonly given is that they come from the small savings of the many, who by means of the joint-stock principle are able to share in corporate investment. True, the ultimate source of capital funds is savings, but this answer, standing alone, is misleading. It is not true that vast bodies of small savers by buying corporate securities become owners of the productive plants of the nation. Small savings go into such institutions as savings banks and insurance companies, and these institutions are the suppliers of capital to industry. In 1938 the forty-nine largest legal reserve life-insurance companies held 22.9 per cent of all railroad bonds, 22 per cent of all public-utility debt, and 15 per cent of all industrial debt. The sale of securities to the public actually means, in many instances, sales of large blocks to institutions, not to individuals. Further, when securities are really sold to individuals, it is more likely to be to large than to small savers. Ownership of stocks and bonds is far less widely distributed than is generally supposed. In addition to institutional buyers and wealthy savers, corporations have a third source of funds, their own earnings, which, turned back into business, provide, in the aggregate, an enormous sum. Corporate savings in 1944 amounted to over five billion dollars; in 1945, to four and one-half billion. These are aptly described as forced savings, since boards of directors, by retaining them in the business, deprive shareholders of the power to choose whether they will spend or save this money.

Income and Capital Accounts

We turn next to an examination of corporate accounting, essential to any understanding of corporate operation. It must be remembered that, since the corporation is a legal and business entity distinct from its owners and from its officials and employees, it takes the place of the individual proprietor in all mat-

ters of business responsibility and power. Its accounting is therefore like his, but vastly more extensive and exact; in addition, it must carry a group of accounts that he does not have, namely, the accounts with the owners, the stockholders.

Corporation accounting undertakes to record the condition and activities of the organization as reflected in its financial transactions. As far as that result is successfully accomplished, the accounting is good, but at best no accounting can do more than approximate a correct picture of actual conditions. Corporation accounts are of two kinds. The operating, or income, accounts reflect the current movement of the business. They show the receipts and expenditures over the period of time they cover, for example a year, recording the income and outgo under whatever classifications are most serviceable to those who operate the business. The balances of the various accounts are brought together in a single profit-and-loss account, which shows the gain or loss made by the corporation as a whole during the year. Capital accounts, on the other hand, show the condition of the business at any given point of time. They contain a properly classified statement of all valuable property owned by the corporation and debts owed to it, together with a corresponding statement of its debts to others and of the further balancing amounts which it owes its stockholders, since they really own all that it possesses. A balance sheet may be drawn up at any time from the capital accounts. Changes in the balance sheet from one date to another are brought about wholly by intervening operations recorded in income accounts. Whether the business is worth more or less at the later date than at the earlier depends entirely on its receipts and the disposition made of them during the period covered.[4]

All accounting is based on the double-entry principle. Each transaction creates a debit and a corresponding credit item, in equal amounts. When a corporation is established, it starts off with a certain amount of money or other valuable property. This amount is set down on the books, under the appropriate heading, as the assets or property of the corporation, and on the opposite side of the books is set down a corresponding liability item, to be dealt with shortly, indicating the source from which the assets were derived. Plainly the asset and the liability are equal, since they are two different records of the same thing. All business, from the accounting point of view, is a process (1) of acquiring assets, as when a corporation acquires money by selling bonds for cash; (2) of disposing of assets, as when it pays out cash to redeem the bonds at maturity; or (3) of exchanging one asset for another, as when goods are sold for money, or when money is paid out for materials, or, less directly, when

[4]For purposes of illustration we shall assume throughout that the accounting period is a year.

money is paid out for labor to work up those materials. In the last transaction the materials and the money expended, the old assets, are, in effect, exchanged for a new asset, the finished goods in the warehouse ready for sale. In transactions (1) and (2) each increase or decrease in assets is balanced by a corresponding item of increase or decrease in liabilities. In transaction (3) an increase or decrease in one asset is balanced by a corresponding decrease or increase in another asset. The matter will become clearer as we proceed.

The Balance Sheet

A corporation is chartered with capital stock of $50,000, 500 shares with a par value of $100 a share, subscribed but not paid in. It calls for payment, which is immediately made. It then has assets of $50,000 cash with which to work. In receiving this money from the shareholders it has created a liability of $50,000 capital stock, a claim of the stockholders against the corporation. It immediately invests $40,000 in a plant, reducing cash assets by that amount to $10,000 and acquiring new assets of $40,000 in the form of the plant. If a balance sheet were drawn up at this point it would appear thus:[5]

(*1*)

ASSETS		LIABILITIES	
Plant	$40,000	Capital stock	$50,000
Cash	10,000		
Total	$50,000		$50,000

Its assets at this point consist of the money and the other valuable property that it owns. The liabilities side of the balance sheet, in theory, shows the sources from which those assets were derived or who has claims on them. The two sides of the balance sheet are thus, in effect, two different statements of the same set of facts, and their totals, in the absence of error, cannot help being equal. The substantial realities of the business as a producing concern are those set forth on the assets side, the liabilities statement representing simply claims of one kind and another against it. As our corporation now stands, it has a plant assumed to be worth $40,000, because it cost that sum, and $10,000 cash in the bank, with which it can do what it pleases, that is, what its directors please. As we shall see, with the progress of business the total of assets will rise and fall from time to time, the whole increasing with

[5]It is important in all the following illustrations for the student to follow each transaction indicated as we have done in the example just given, noting exactly the changes that each produces in assets and liabilities and the consequent balance of total assets and liabilities thus maintained. Even a small amount of such practice will do much to impart reality to the mysteries of corporation accounting.

the growth of business, and constantly changing in form between concrete goods, on the one hand, and money and claims to money, on the other. These are the realities with which business is done, the realities out of which payments have to be made and profits have to be realized. The student should always remember that no payment of any kind whatever can be made except out of assets. Indeed, the limitation goes further. Payments can be made only out of cash, or out of other assets (like finished goods) that can be turned into cash. The plant constitutes the chief asset of our corporation, but it can make no payment out of that asset. No going company in its senses would sell its plant in order to get cash.

Let the corporation now proceed to do business. It (1) borrows $10,000 on its own note from the bank, (2) buys $6000 worth of raw material for cash, and (3) pays its employees $12,000 to manufacture $5000 worth of this material into finished product worth (at cost) $17,000. For the sake of simplicity we will omit all elements of cost except labor. At this point its balance sheet will stand thus:[6]

(2)

ASSETS		LIABILITIES	
Plant	$40,000	Notes payable	$10,000
Raw material	1,000	Capital stock	50,000
Finished goods	17,000		
Cash	2,000		
Total	$60,000		$60,000

In summary, it has increased its assets by $10,000 by means of a bank loan. The assets now contain two new items, raw materials and finished goods on hand; the liabilities, one, the bank loan.[7]

[6]We give here the detailed changes in the balance sheet produced by each of the three transactions listed, in accordance with the suggestion in footnote 5. In each case a + sign indicates increase in the item noted, while a — sign indicates decrease.

	ASSETS		LIABILITIES	
(1)	Cash	+$10,000	Notes payable	+$10,000
(2)	Raw materials	+6,000		
	Cash	−6,000		
(3)	Finished goods	+17,000		
	Raw materials	−5,000		
	Cash	−12,000		

The student will realize that a new balance sheet is not, in fact, drawn up after each transaction, but only periodically when a statement of condition is desired, as quarterly, semiannually, or annually. Our examples indicate the changes that would be shown if a new balance were struck after each transaction occurred.

[7]Throughout the succeeding illustrations we carry the bank loan at a fixed sum, as though it were an unchanging item. In fact such a loan would be made for a short time only, would have to be renewed at intervals, would rise and fall as the financial needs of the corporation varied, and would be likely to increase as the business grew.

Earned Surplus and Cash Dividends

Of the $17,000 worth of finished goods on hand, the corporation now sells $15,000 worth[8] for $18,000, receiving in payment $6000 in cash and $12,000 in sixty-day notes of the buyers. When goods, as in this instance, are sold at a profit, assets are thereby increased by the amount of the excess above cost. In our example a goods asset of $15,000 disappears and new assets of $18,000 in cash or claims to cash are created. Thus total assets are increased by $3000, and somewhere there must have been a corresponding increase in liabilities. It is brought about as follows. In the operating accounts of the concern, to be dealt with later, there is a profit-and-loss account to which all profits are credited and losses debited. Whatever balance of profits exists at the end of an accounting period is obviously an addition to the claim of the shareholders against the corporation. In the balance sheet it is recorded as "earned surplus." The balance sheet stands thus:

(3)

ASSETS		LIABILITIES	
Plant	$40,000	Notes payable	$10,000
Raw materials	1,000	Capital stock	50,000
Finished goods	2,000	Earned surplus	3,000
Notes receivable	12,000		
Cash	8,000		
Total	$63,000		$63,000

Finished goods are down to $2000, while assets contain a new item, notes receivable, to the amount of $12,000. Total assets are increased by $3000, against which we have set up the new liabilities item of earned surplus in an equal amount.

Wishing to proceed to once with their manufacturing operations, and needing more cash for that purpose, the operating heads of the corporation decide to get it by "discounting" most of the notes they hold, that is, by selling them to the bank. They therefore offer $10,000 worth of the notes to the bank, which charges them $100 discount, representing interest at the rate of 6 per cent annually for the two months before the notes are due. The bank thus pays the corporation $9900 for the notes. At the end of sixty days the makers of the notes will have to pay the bank the $10,000 for which the notes call. If they do not do so, the corporation that discounted the paper owes that amount to the bank. At the moment, however, it owes the bank

[8] "Worth" is here used, it will be noted, in the sense of cost. In fact the goods are worth $18,000, as is evidenced by their sale at that price.

nothing on the transaction, having, in effect, paid it $100 for taking over the notes. The balance sheet stands thus:

(4)

ASSETS		LIABILITIES	
Plant	$40,000	Notes payable	$10,000
Raw materials	1,000	Capital stock	50,000
Finished goods	2,000	Earned surplus	2,900
Notes receivable	2,000		
Cash	17,900		
Total	$62,900		$62,900

Assets are reduced by $100, the amount of the discount the concern paid to the bank. The liabilities item of earned surplus is equally reduced. The corporation is now in the desired cash position.

It buys $7000 worth of raw material, paying $2000 cash and getting the remaining $5000 on open-book account at thirty days' time. It thus has $8000 worth of material on hand. It pays its employees $15,000 cash to work up $6250 worth of this material into goods worth $21,250 at cost, bringing total finished goods to $23,250. Of these it sells $20,000 worth at prices aggregating $23,000. Of this sum $10,000 is received in cash, $3000 is on open-book account, and $10,000 is in one-month and two-months notes. The balance sheet now stands thus:

(5)

ASSETS		LIABILITIES	
Plant	$40,000	Notes and accounts payable	$15,000
Raw material	1,750	Capital stock	50,000
Finished goods	3,250	Earned surplus	5,900
Notes and accounts receivable	15,000		
Cash	10,900		
Total	$70,900		$70,900

Since the date of the preceding balance sheet assets have increased by $8000, of which $5000 is represented among the liabilities, as comparison shows, by accounts payable, and $3000 by earned surplus.

Let us assume that at the end of a highly profitable year the earned surplus has risen to $15,000. We will assume, too, that the cash position meanwhile has become so strong that the management from time to time has invested $12,000 of the cash in government bonds, wishing to have that part of the assets earning something, and yet to have it in a form in which it can readily be turned back into cash by selling the bonds. The balance sheet stands as shown on the following page:

(6)

ASSETS		LIABILITIES	
Plant	$40,000	Notes and accounts payable	$20,000
Raw materials	3,000	Capital stock	50,000
Finished goods	8,000	Earned surplus	15,000
Notes and accounts receivable	13,000		
United States bonds	12,000		
Cash	9,000		
Total	$85,000		$85,000

The directors decide that it is time to make a cash distribution to stockholders, and therefore declare a dividend which is the equivalent of 10 per cent of the capital stock. This will call for $5000 cash. As they think it necessary to keep $6000 cash on hand, they sell $2000 worth of government bonds, raising cash to $11,000, out of which they pay the stockholders the $5000 cash dividends, leaving the required $6000 in the bank. Total assets are reduced by $5000; the earned surplus item is reduced by the same amount. The balance sheet stands thus:

(7)

ASSETS		LIABILITIES	
Plant	$40,000	Notes and accounts payable	$20,000
Raw materials	3,000	Capital stock	50,000
Finished goods	8,000	Earned surplus	10,000
Notes and accounts receivable	13,000		
United States bonds	10,000		
Cash	6,000		
Total	$80,000		$80,000

The directors next decide that, in view of the outlook for profitable operation, it would be desirable to enlarge their plant by adding one quarter to its capacity. This will call for the added investment of $10,000. To raise the necessary money, they sell the remaining $10,000 worth of government bonds and expend the proceeds for new building and equipment, thus raising the value of the plant to $50,000. Since the $10,000 bond asset has disappeared, however, the total of assets is the same as before. The balance sheet follows:

(8)

ASSETS		LIABILITIES	
Plant	$50,000	Notes and accounts payable	$20,000
Raw materials	3,000	Capital stock	50,000
Finished goods	8,000	Earned surplus	10,000
Notes and accounts receivable	13,000		
Cash	6,000		
Total	$80,000		$80,000

If this balance sheet is compared with the two that precede it, certain simple but important accounting facts should be clear. Number 6 showed that of the $85,000 assets of the company, $15,000, as indicated by the item earned surplus, had been brought into the company by the profits it had made. Number 7 showed total assets reduced by the payment of $5000 in cash as a dividend to stockholders. Of the $80,000 assets remaining, only $10,000, as shown by the reduced earned surplus item, had been brought in by earnings, which, however, had furnished also the $5000 that was paid to stockholders and that now has disappeared out of the company. The payment of the cash dividend reduced the claims of the stockholders against the company. This reduction is made evident by a reduction in the earned surplus. In number 8 the amount of the assets remains unchanged, as does that of the earned surplus; but the more permanent character of some of the assets suggests that the directors have decided to keep $10,000 of the earnings of the company in the business. The stockholders' claim which is now represented by earned surplus is not likely to be further reduced by payment of cash dividends.

Earned Surplus and Stock Dividends

Let us follow earnings one possible step further. Suppose that in the course of two more years further profits of $20,000 have been "plowed back" into the company, as the expression goes. We will assume that the addition to assets has been in the form of additional plant to the value of $6000, together with $4000 worth of added raw material, $5000 in finished goods, and $5000 addition to the working-cash balance. The surplus item will be increased by $20,000, and the balance sheet will stand thus:

(9)

ASSETS		LIABILITIES	
Plant	$56,000	Notes and accounts payable	$20,000
Raw materials	7,000	Capital stock	50,000
Finished goods	13,000	Earned surplus	30,000
Notes and accounts receivable	13,000		
Cash	11,000		
Total	$100,000		$100,000

At this point the directors decide to distribute a part of the surplus, as it is said, by declaring a stock dividend. They therefore increase the amount of the capital stock by 40 per cent of the original. The total amount is now $70,000. To each holder of 10 shares they give four additional shares, 40 per cent of what he already held. These shares do not increase the claim of the

stockholder against the corporation. A part of his claim formerly called surplus is now represented by additional capital stock. The surplus item is reduced by the same amount by which the capital stock is increased. The new balance sheet records:

(*10*)

ASSETS		LIABILITIES	
Plant	$56,000	Notes and accounts payable	$20,000
Raw materials	7,000	Capital stock	70,000
Finished goods	13,000	Earned surplus	10,000
Notes and accounts receivable	13,000		
Cash	11,000		
Total	$100,000		$100,000

The situation is *in fact* exactly the same as before the stock dividend was declared. The assets are item for item the same. The stockholders' equity (what the stockholders own) was $80,000 before the stock dividend; it is $80,000 after it. There is only a bookkeeping change. Before the dividend that equity was represented by $50,000 in stock and $30,000 in surplus. After the dividend the corresponding figures are $70,000 and $10,000. The stockholders stand exactly where they did before; they have neither gained nor lost a cent. Each share was worth (at book value) $160 before the dividend; each is worth $114.29 after the dividend. A man who owned 10 shares worth $160 each owned $1600 worth of stock. He now owns 14 shares worth $114.29 each, or $1600 in all, exactly what he owned before. One result of a stock dividend is to reduce the book value (and usually the market value) of an individual share. The same result is sometimes attained by a stock split-up, whereby shares are recalled and are replaced by a larger number of new ones with lower par value. A company having 1000 shares outstanding with a par value of $100 and a capital stock of $100,000 might recall these shares and issue in their place 4000 shares, each having a par value of $25. While the total capitalization is unchanged, book, market, and par values of the individual shares have been reduced. The owner's equity and the total book value of each owner's holdings remain what they were before the split-up. The shareholder with 10 shares, with a par value of $100 each, had claim—on the face of his shares—to $1000. He now has 40 shares with a par value of $25 each and a total of $1000.

The actual significance of earned surplus and stock dividends seems extraordinarily hard for students and businessmen alike to grasp. Hence it is important to fix clearly in mind the idea as here set forth. Surplus is a bookkeeping item set up by the accountant as a liability, to balance assets which represent realities in the business to which stockholders have claims that exceed the capital stock. These realities are plants and machinery, cash or its equiva-

lent, or other valuable goods and claims, all of which together make up the wealth of the corporation. They are entered, at their values, as assets in its balance sheet. Their total value is balanced in part, as we have already illustrated, (1) by the outstanding debts of the corporation, (2) by its capital stock. Whatever is not thus covered is balanced by (3) an item called surplus. To speak of paying dividends out of surplus, as is frequently done, is accordingly as meaningless as it would be to speak of paying them out of its accounts payable or any of its other liabilities. Payments are made out of assets, and assets only. Yet, strange as it may appear to anyone who actually understands the matter, it is commonly believed that if a corporation accumulates a large surplus account, no matter in what form its assets are held, it is thereby enabled to continue paying unearned dividends as long as the surplus is not exhausted.

If part of its assets are, in fact, held in such a form that they can be readily turned into cash, as when it holds bonds of the government or of another corporation, then in unprofitable years it can sell such assets and pay dividends with the cash thus realized; it can even meet deficits in operation out of the proceeds of such sales until these assets are exhausted. The reduction of assets is balanced by a corresponding reduction of the item of surplus; but the payments, plainly, are made out of the assets, not out of the surplus item. The existence of an adequate earned surplus account is accordingly a great convenience to corporate management when it finds it desirable to make payments, as just described, out of assets and not out of current earnings. On the liabilities side the amount of such payments is simply deducted from the surplus item and not from the capital-stock account, as would otherwise be necessary. Since the law, in order to protect creditors, prohibits any impairment of original capital for the purpose of paying dividends, the management, as an accounting matter, has theoretically greater liberty to dispose of assets if balanced by surplus than if balanced by capital stock.

We have spoken of impairment of capital as being forbidden by law. It is important to make clear the concept of capital as a sum of value embodied or invested in a business. If stockholders buy $100,000 worth of stock at par and the proceeds are at once laid out in land, buildings, and equipment, we say that a capital of $100,000 is invested or sunk in the business. Those who give the corporation credit may think of this sum put in by the stockholders as being in some sense security for the credit extended, and it is that sum, represented by capital stock, whose impairment the law seeks to prevent. Actually, additional sums invested in the business out of earnings, and recognized by an item of surplus, are just as truly capital and equally constitute additional security for creditors, though creditors have no right to demand

that earned surplus be not impaired. Further, if bonds are issued and the proceeds are invested in the business, the sum thus sunk constitutes a part of the capital as defined in the second sentence of this paragraph. In this sense of the word the capital of a corporation, if its books have been correctly kept, is identical with the total of its assets, except as the assets include items of good will or other values that have not been brought in by the actual investment of money.

Owners' Equity and Surplus

So far as concerns ownership, capital stock and surplus are alike. Together they represent that part of the value of the assets of the corporation for which it is not indebted to others than its stockholders. In other words, their total is the net worth of the corporation. What, then, is the distinction between capital stock, on the one hand, and surplus, on the other? Here it is necessary to distinguish between what is known as earned surplus and capital surplus. We have already dealt with earned surplus. Capital stock (theoretically, and in the absence of stock dividends) represents a claim to value contributed to the business by the stockholders; earned surplus, a claim to value brought into it by the profits of operation. If stock dividends have been issued from earned surplus, then, to the extent of their total, capital stock is transmogrified surplus and represents a claim to value created by profits of operation.

When the word "surplus" is used without qualification, it is commonly understood to be earned surplus. A separate item of capital surplus also appears in many corporation balance sheets. It differs completely from earned surplus. Not only so; it means wholly different things in different corporations. At the end of 1937 the balance sheet of the American Telephone and Telegraph Company showed a capital surplus of practically $270,000,000; that of Electric Bond and Share Company showed $314,000,000. The telephone company's $270,000,000 represents that amount of actual cash paid in to the company by shareholders for their stock in excess of the par value of their shares. The company has actually received in cash an average of $115 per share for each of the 18 million $100 shares outstanding. The extra $270,000,000 premium thus received the company used, exactly as it used the other $1,800,000,000 received for the stock, to provide equipment for the furnishing of telephone service. The assets corresponding to the capital surplus were thus provided directly by the stockholders, and not, as with earned surplus, out of earnings. The stockholders in this example have exactly the same relation to the capital surplus that they have to capital stock. The same thing is true of any instance in which a corporation has sold shares at a premium and credited the excess to capital surplus.

By contrast, the Electric Bond and Share capital surplus appears to represent little but bookkeeping. When that company was formed in 1929, it took over the assets of predecessor companies, such assets consisting chiefly not of operating properties but of securities of operating companies. Bond and Share began business with a capital-surplus account of $500,000,000, of which about four fifths represented not money paid in to its predecessor companies but appreciation of their assets, that is to say, a write-up of the value of the securities they owned.[9] At the end of 1930 the capital surplus was reported as $667,000,000, and a year later as $199,000,000. This reduction of capital surplus arose chiefly from a devaluation of investments, to the enormous sum of $441,000,000. We shall follow the gyrations of this account no further. It should be clear without more words that it bears no resemblance whatever to the corresponding account of the telephone company, representing over a quarter of a billion dollars of actual money paid in to the company by its stockholders as a premium on their stock. Electric Bond and Share on December 31, 1937, was carrying in its list of assets, at a value of $409,000,000 (presumably their cost to the company), stocks of subsidiary companies the market value of which at that date was $110,000,000.

It should not be supposed that every example of the creation of a capital surplus by the process of writing up assets represents an attempt at deceiving the public. Such is not the fact, though corporate accounting offers plenty of opportunity for deceit, and far too frequently the opportunity has been utilized in American practice—and not exclusively by disreputable concerns, though the better companies are more likely to undervalue than to overvalue their assets. It is intended here, by the use of two extreme examples, simply to indicate the utterly diverse character of the assets balanced by the item "capital surplus" in the corporation balance sheet.

Income Accounts

We turn now to a more particular examination of income accounts. Since the immediate aim of private business is to make profits, these accounts, with their record of receipts and expenditures, are of prime interest. What a corporation is worth to its stockholders depends chiefly on what it earns for them, and that is a matter of the relation between receipts and expenditures. While the balance sheet presents a picture of the corporate possessions and obliga-

[9]The companies brought together in Electric Bond and Share owned securities of subsidiary companies which had increased greatly in value during the boom period of the twenties. These swollen valuations were set up as assets and were balanced by the item of capital surplus.

tions at a single moment of time, the operating accounts follow every transaction of the corporation through a period of time. From the wearisome complexity and detail of such accounts there is made up once or twice a year a brief summary, variously called the Income account or the Profit and Loss account, or some similar descriptive name. This highly simplified statement, available to shareholders and to the interested public, shows the basis for changes in the balance sheet from one statement to the next.

(11)

Consolidated Income Account [10]

For the year ending December 31, 1945

Net sales		$42,000,000
Cost of sales exclusive of depreciation		20,000,000
Gross profit from operations before depreciation		$22,000,000
Selling and administrative expenses exclusive of depreciation		6,000,000
Net profit from operations before depreciation		$16,000,000
Add:		
Income from securities and sundry nonoperating income		300,000
		$16,300,000
Deduct:		
Provision for depreciation and obsolescence	$1,500,000	
Interest on bonds	250,000	
Provision for loss on sundry investments	90,000	
Federal and state capital-stock taxes	200,000	
Provision for state income tax	100,000	
		2,140,000
Net income before Federal income taxes		$14,160,000
Provision for Federal income taxes		1,400,000
Net profit for the year		$12,760,000

A second account shows the disposition of the net income for the year. This would contain such items as the following:

(12)

Consolidated Earned-Surplus Account

For the year ending December 31, 1945

Earned surplus as at December 31, 1944		$36,000,000
Add:		
Net income for the year		12,760,000
		$48,760,000
Deduct:		
Dividends paid	$10,000,000	
Shrinkage in net assets of subsidiaries	1,500,000	
Additional appropriation to reserve for unemployment benefits	300,000	
		11,800,000
Earned surplus as at December 31, 1945		$36,960,000

[10]The student will scarcely need to be warned that these figures have no relation to reality.

Depreciation

However, no simple statement of money transactions during the year, useful as it is, can give a true picture of income and outgo. Even the simplest cost accounting must go deeper than that. Examination of the single element of depreciation, which appears in number 11, will illustrate this.

Before scrutinizing the depreciation account itself, we must examine its basis, the fact of depreciation. Land in many uses does not depreciate. It will carry a building as well a century hence as today. But all man-made instruments deteriorate. Machines wear out, no matter how carefully they are kept in repair, and a fifty-year-old factory or office building, however well taken care of, is an old building. It is by no means wholly the fact of physical deterioration, which to some extent is often taken care of by piecemeal reconstruction. Even more fatal economically is obsolescence. Technical progress, based on the continuous advance of science and its rapid application to industry, is forever replacing good machinery and buildings with better. The new machine is so much cheaper to operate than the old one that nobody can afford any longer to use the latter, though it may be physically as good as ever, or, indeed, absolutely new. The progress of electrical technology today is so rapid that the average useful life of electrical equipment is estimated at not more than ten years. Install the best dynamo that you can buy today and keep it continuously in first-class condition. Ten years hence you may, nonetheless, have to throw it on the scrap heap, because a dynamo so much better is then available as to make it absolutely ruinous to continue using the old one. An industrial engineer states that at the present time he does not try to sell new refining equipment to an oil company unless he can prove that it will save enough to pay for itself in three years. Every class of equipment has a period of useful life—that is, of economic profitableness to its owner—the length of which is dependent on the rapidity of physical deterioration and of obsolescence. This is the state of facts that underlies depreciation accounting. If the cost of doing business is to be recorded properly, that cost must include depreciation charges levied against each class of equipment at the appropriate rate, as determined by the period of useful life, and adequate to replace the equipment as it is retired. One characteristic of corporate accounting, not as yet mentioned, is of importance in this connection. It is customary to record the value of the property as the cost at the time of purchase. No matter what changes in value come about, property continues to be carried at original cost.

Let us return to our original corporation, starting business with a plant valued at $40,000, which, it will be recalled, we carried on the books con-

stantly at that figure. Let us assume that the plant consisted of (1) land worth $4000, (2) standing on this land a building worth $16,000, with a useful life of 40 years, and (3) in this building machinery worth $20,000, which, though kept in the best condition by constant attention and repair, will yet be entirely worn out or out of date in the course of 20 years. Evidently the goods produced each year must be charged with $400 depreciation on the building and $1000 on the machinery.[11] Suppose that the net profits of the first year, neglecting depreciation, have been $5000. In producing that profit $1400 has been taken out of the building and machinery, and the assets of the corporation, no matter what its bookkeeping, have in fact been reduced by that amount. The profits are really $3600, not $5000. If the directors each year, under the illusion that profits had been $5000, paid out that sum in dividends, and let their plant run down by $1400, then one fine day in a little less than thirty years their building and machinery would dissolve in air, and their stockholders would be faced with the necessity of raising $40,000 for a new plant. Or, if the physical effect was not to make the plant, like the one-hoss shay, disappear all at once, the financial consequences would be no less disastrous. The $1400 annual depreciation of plant, in other words, is just as real a cost of production as the wages of labor or the cost of materials during the year, and must be charged into the cost of operation in just the same way.

Prices, if they are to cover costs, must be high enough to include this depreciation. Each year, in addition to all other costs and whatever profit it makes, the company charges, or should charge, its customers $1400 for the using up of its plant. The money thus received is used, as are all other receipts, for whatever corporate purposes its directors think best. It establishes, however, among its income accounts a depreciation account, to which this $1400 is credited, and in the balance sheet at the end of the first year $1400 should appear as a depreciation reserve to be subtracted from the stated value of plant and machinery. The balance sheet therefore correctly pictures the actual impairment of the value of the plant that has occurred, if we assume, as would probably be true during the first year, that there has been no replacement. Assume the same process continued thus during four years, in which time the depreciation account has become $5600. At the fourth year's end the balance sheet stands as shown on the following page:

[11]In fact, the proper depreciation charges would theoretically be less than the figures given, since the depreciation charges will accumulate interest during the period before renewal has to take place. We neglect the element of interest in our discussion, but in the practical calculation of depreciation charges it must be taken into account.

(*13*)

ASSETS		LIABILITIES	
Plant	$40,000	Notes and accounts payable	$25,400
Less depreciation reserve	5,600	Capital stock	50,000
Net properties	$34,400	Earned surplus	13,000
Raw materials	6,000		
Finished goods	10,000		
Notes and accounts receivable	15,000		
Securities	8,000		
Cash	15,000		
Total	$88,400		$88,400

At this point the directors decide to scrap a machine costing $5000 and replace it with a new and greatly improved type. The obsolete machine represents one fourth of the value of machinery in the plant; therefore one fourth of the $4000 charged in four years to machine depreciation has already been charged against this machine on the books of the company. By discarding it (if we assume that it has no value, as junk) the company must subtract a further $4000 from its assets. Its accounts have been kept on the theory that this equipment would serve its purpose for twenty years. The invention of an improved machine has caused a sharp reduction in the value of the assets. Normally this cost would have been spread over sixteen years and would have been treated as other costs were treated during those years. The second step which the company now takes is to purchase the improved machine at a cost of $7000, which is paid in cash. While this transaction adds to the investment in the plant, it subtracts from the cash item, thus making no change in the total assets of the company. The assets are reduced by $4000 in one year, instead of carrying a depreciation charge on this machine of $250 a year for sixteen years. In many of the war contracts made by the government, corporations were allowed to include as depreciation costs each year one fifth of the cost of any new plant or machinery, on the assumption that at the close of the war those plants would be no longer useful. The result of such generous depreciation allowances would, of course, be that the prices of the products sold to the government during this five-year period would cover the entire cost of the plant created to supply them, even though both plants and machinery might continue to operate for many years.

This brief examination of depreciation accounting illustrates a single one of the many difficulties attending the effort to make the books of a corporation tell the true story of its income. Proper income accounting is of the utmost importance to those who direct corporate policy; it is essential to effective public regulation of any industry; it is no less important to those who invest in corporate securities, and through them indirectly to the whole community. The various industries and the various corporations in each industry con-

stantly compete with one another for the new savings that are practically always being sunk in industry to provide new productive equipment. Seeking to get a share of this new capital, corporations issue new securities, which are bought at prices based chiefly on the anticipated earning power of the issuers and the consequent income to be expected by the owners of their securities. In order that the right prices may be put on securities to bring the new capital to the right corporations, that is, those which by their operations can yield a return to capital, it is essential for buyers to be correctly informed through adequate and accurate corporate income accounting.

The Market Value of Corporate Securities

With this thought in view we turn back to a more careful examination of the value of a corporation and its securities. We have already distinguished between par value, book value, and market value of stocks, and have suggested the idea that market value depends chiefly on anticipated earning power. This idea now may be developed more clearly. Other things being equal, the greater the assets of a corporation the greater its absolute earning power, though not necessarily the greater the ratio of earning power to assets. Two corporations of equal assets, however, may have widely different earning power. Each of two cotton-mill corporations has total assets of $1,000,000, and each is capitalized at $1,000,000 in stock. Corporation A, with ordinary good management, succeeds (taking one year with another) in making profit enough to pay its stockholders on the average $50,000 a year dividends, or 5 per cent on the stock. Corporation B, extraordinarily well conducted, is able to pay $100,000 a year dividends, 10 per cent on the stock. A $100 share in A brings its owner a $5 dividend; in B, a $10 dividend. Since the value of a share of stock to the owner depends, generally speaking, on the income he hopes to get from its ownership, a share in B will be worth twice as much as a share in A.[12] Suppose that investors commonly are realizing 8 per cent on that type of investment—that is to say, $8 on a security costing $100. Then a share in A, yielding $5, will sell for $62.50; a share in B, yielding $10, will sell for $125. Under these circumstances the $1,000,000 capital stock of A would be worth only $625,000 in the market; that of B, $1,250,000. B is worth more than A, not because it cost more, and not because its assets are greater, but simply because it can earn more—in this instance, we have assumed, because of its better management. B can "get new money," as the

[12]Needless to say, we are only illustrating a general principle. Many other things besides earning power influence the value of corporate securities. Nevertheless, earning power is the chief determinant.

expression goes, more cheaply than A, and if new savings are being invested in cotton mills, they will go to B rather than to A. This is socially desirable. Earning power may arise from a variety of causes, but whatever its source, at bottom earning power determines the value of a corporation, and that value determines the value of its securities. Putting the matter generally, as illustrated in the example above, we say that value is the capitalization of prospective earning capacity.

We have necessarily dealt with corporation finance at considerable length, and at that have done no more than touch on some of its more important features. Many of the concepts of accounting practice can be given much less precise formulation than here appears. The best practice is bound to leave much untold. The accounting structure which has been examined in this chapter is in use in the small corporation as well as in the large one; but already it must be clear to the student that we have here a form of business unit which facilitates large organizations and which by its very nature is bound to create problems of concentration of power and of control, both internal and external. The internal financial arrangements of corporations should distribute earnings equitably among the various classes of security-holders who have contributed capital. Too frequently they are so handled as to enrich the managing group or special classes of security-holders at the expense of all others concerned. Some of the problems of power and control are discussed in the next chapter; others will appear at a later stage of our study. Few things are more important to the efficient working and social serviceability of the capitalistic system as we know it than the honest, intelligent, and farsighted operation of the machinery of corporation finance. Nevertheless, we must not forget that it is machinery.

CHAPTER TEN

The Large Business Unit

THE amount of space which has been devoted to the accounting of corporate organizations must not be allowed to obscure the fact that our real interest is not in their financing but in their working as agencies for the production and distribution of income. The distinctive economic service of the corporation has been to make possible the aggregation of capital in large masses, thereby rendering practicable the great producing units of today: the large factories, the railroads, all that class of large-scale undertakings that require for efficient operation a capital beyond the resources of a single individual or a small group. Limited liability and the joint-stock principle have made it possible for men of business ability to get control of the accumulated capital of many small and large investors, and thus to create large business units. In this way the corporate organization has contributed to the efficiency of present-day industry. To say this is not to argue that bigness is synonymous with efficiency; often it means inefficiency. But much of the most efficient machine technique is impossible except on a large scale. There can be no such thing as a really small steel plant or automobile factory or railroad. The corporation has made these enterprises possible. We may say that it is a financial and business device made necessary by the growth of a machine-and-power technique and prerequisite to the full development of that technique under capitalism.

Development of Corporation Law

While it is the industrial and financial results of corporation growth that are important for our study, a glimpse at the development of corporation law in the United States is essential to an understanding of those results. The powers possessed by any corporation are bestowed upon it by the state which grants its charter. Thus an important link between private business and public policy is created by the very existence of the corporate form. The corporate device was first utilized in this country at the end of the eighteenth and the beginning of the nineteenth century, being applied to the formation of financial concerns like banks and insurance companies, and of transportation un-

dertakings like turnpikes and bridge and canal companies. At first gradually, then with increasing speed, it came to be employed in practically all lines of enterprise where it was necessary or advantageous to assemble capital for administration in large amounts. In our early history each corporate charter represented a separate act of legislation; but beginning with the Connecticut statute of 1837 the states passed general incorporation laws that greatly simplified the chartering process. Further, charters were progressively liberalized so that corporate powers were no longer narrowly limited, as had been true in the early days. In the course of time the states discovered possibilities of doing a profitable business in chartering corporations. Under our constitutional provision for free trade among the states, one state found it difficult to exclude a corporation chartered in another from doing business within its borders. Consequently, a Delaware or New Jersey charter, in practical effect, gave the corporation power to do business in every state in the Union. Under these conditions the chartering states not only secured incorporation fees, but sometimes were able to collect taxes from their corporations in amounts of considerable importance.

During the last third of the nineteenth century, with a view to increasing the number of their charters, some of the states entered into lively competition with one another in relaxing their corporation laws. As a result it came to be said with little exaggeration that in certain states a charter could be obtained to do almost anything except to commit murder. The securing of a charter became little more than a matter of meeting certain prescribed legal forms, thereafter making routine reports and paying small annual charges. As a result of the liberality of corporation laws and, sometimes, of the laxity of their administration, corporate managers, under the guidance of skillful lawyers, found their powers almost indefinitely extended and their responsibilities strikingly lessened.

The Quasi-Public Corporation

Our present interest is in the comparatively small number of large corporations. These by their very size are something economically different from small business enterprises, though the form of organization is identical. To be sure, it is impossible to indicate exactly at what point a business ceases to be small and becomes large; nevertheless there can be no debate over the statement that some corporations are obviously "big business," others small. The in-between group calls for no special attention. One distinction, already made, which in later chapters we shall find indispensable, is that between the business units which create an insignificant proportion of the total product of the in-

dustry and those which place on the market a considerable part of the entire supply. Economically this distinction, which is not one of absolute size but of relation to total production of the particular product, is of major importance. In this chapter the emphasis is on absolute size and certain of the problems which it engenders or accentuates. A few of the big-business enterprises are privately owned,[1] as the Ford Motor Company; the majority, with their wide dispersion of shareholders, are the so-called "quasi-public" corporations. Both groups by reason of their size inevitably wield tremendous power in our economic life, often hopelessly complicating the working of a system of free enterprise. Their price policies, their tendency toward monopoly, their employment practices, their attitude toward the government, all assume major importance because of the amount of the capital represented, the number of employees affected, and the influences which the corporation can bring to bear on public opinion. Intimations of all this will appear from time to time in the pages which follow. The remainder of this chapter is concerned directly with the quasi-public corporation, though the student will see that part of what is said applies equally to the largest of the private corporations. The quasi-public body has been happily described as "a means whereby the wealth of innumerable individuals has been concentrated into huge aggregates and whereby control over this wealth has been surrendered to a unified direction."[2] Its outstanding characteristic is that it raises its capital chiefly by the sale of securities in the public market. As a consequence it has lost the features that characterized the old owner-proprietorship, and has developed new aspects appertaining only to the large business unit. It is a new business thing under the sun, and our thinking about it is helped far more by noting its similarities to the state or other large-scale forms of organization than by trying to assimilate its activities to those of the farmer, the village grocer, or the cobbler.

The American Telephone and Telegraph Company, to give an example, has assets of more than five billion dollars. It has more than two thirds of a million stockholders and nearly a half-million employees. The 22 or more million telephones in the United States, connected by no less than 81 million miles of wire, enough to go 3200 times around the world, carried a daily aver-

[1]By the term "privately owned" is meant essentially the ownership of a corporation by a single individual or family.

[2]Berle and Means, *The Modern Corporation and Private Property* (The Macmillan Company, 1932), p. 2. This important book has already exercised great influence on thinking about corporations. We draw from it freely. Study of the two hundred largest corporations is continued in the work of the National Resources Committee, *The Structure of the American Economy*, Part I, pp. 99–103, 273–296, to which the student is referred.

age of almost 70 million calls during 1938, an annual total of more than 25 billion—a number incomprehensibly large. The control of this economic empire is in the hands of a board of nineteen directors, not one of whom owns as much as one half of one per cent of the stock. By virtue of their position in this corporation they are among the most powerful men in the United States. The same thing is true, though in lesser degree, of the directors and executives of the other great corporations of the class we are now considering. When an organization has in its employ over 600,000 men, as has United States Steel, the power which it wields is a matter of general concern. We have here not only problems of great economic importance but questions of vital concern to the working of democratic government. Under such corporations are millions of employees, the conditions of whose life and work are determined more largely by the relations prevailing in their corporations than by any other single circumstance.

The Number of Corporate Units

Before examining the particular characteristics of these corporate giants let us try to gain some idea of their comparative importance in our economy. As a first step in this direction we note that of the ten or twelve million business enterprises of Chapter Eight, some 460,000 are corporations large and small. American railroads were built and are operated almost entirely by corporations. Long-distance transportation by motor truck and bus is chiefly corporate. Public utilities, likewise, are almost exclusively provided by corporations, so far as they are not furnished by governmental agencies. Mining and quarrying were (by value of product) 93 per cent corporate as early as 1919. Corporate development was slower in manufacturing than in these fields, but in 1899 the census reported that two thirds of all manufactured products were turned out by corporations. Twenty years later the proportion had risen to 87 per cent, and the corresponding figure for 1932 was no less than 94 per cent. In merchandising, likewise, the corporation shows great gains. It is estimated that corporations did 30 per cent of the wholesale business in 1909, 40 per cent in 1925. Retailing, as was earlier pointed out, remains a stronghold of individual enterprise. Yet corporate retail sales rose from 15 per cent of the total in 1909 to 30 per cent in 1925, and to 36 per cent in 1939.

These figures make no distinction between the small corporation and the large. There are represented here corporations with capital stock of two billion dollars and of ten thousand. We still have no clue to the proportion of corporate business that is done by quasi-public, as opposed to small private, corporations in each division of industry. In retail trade, for example, it is

obvious that corporate sales do not of necessity mean sales by large business organizations. A comparison of the sales of chain stores with those of independents provides a better measure of the incursion of big business into retail trade than does the comparison of corporate sales with noncorporate. The spread of chains was one of the striking features in the first third of this century. The 1939 census of retail trade indicated that a little more than a fifth of the retail business of the country, measured by amount of sales, was done by chain stores, the proportion in the various lines in which they are strongest running thus: apparel, 30.4 per cent; drugs, 25.6 per cent; food, 32.9 per cent; general merchandise, 38.4 per cent; shoes, 56 per cent; variety (including five-and-ten-cent chains), 86.8 per cent. During the period between 1930 and 1939 the greatest increase in the proportion of sales by chain stores was in the field of drugs. Curiously, the chains in the food group lost ground during those years. In 1939 the proportion of their sales to those of independent stores had declined about 25 per cent. In finance, transportation, and public utilities the proportion of large corporations to small is extremely high, but exact measurement is difficult. To revert to Table XI (p. 149) will be helpful here.

How large are the large corporations? In 1937 there were in the United States more than 450,000 active nonfinancial corporations. Of their total assets the 200 largest owned 25 per cent. Of the 200 all had assets of more than 60 millions; 15 had more than 1000 millions; in 1937 they paid 40 per cent of all dividends distributed by corporations. In contrast with these corporate mammoths, the average assets of all the other 300,000 corporations amounted to less than $300,000. Table XII lists the 30 largest corporations in 1935, including both financial and industrial units. Of these thirty corporations, but three are industrial companies; nine are railroads; six, public utilities; six, banks; and six, insurance companies. It is worthy of note that the first ten of these companies contain three insurance companies and three banks, two railroads, one public utility, and one industrial company. These are the most conspicuous and the most powerful examples of the corporation of the quasi-public type.

The Corporation and the Theory of Property

In order to make the significance of these figures clear, it is necessary to review briefly our theory of private enterprise, and to show how the corporation was fitted into that theory. In general, we have assumed that ownership of property carries with it control and responsibility for the conduct of enterprise. The farmer runs his own farm as he thinks best, deciding what he will

Table XII · Billion-Dollar Corporations, 1935[3]

	ASSETS, 1935 (IN MILLIONS OF DOLLARS)	NUMBER EMPLOYED, 1935 (IN THOUSANDS)
Metropolitan Life Insurance Co.	4,234.8	48.5
American Telephone and Telegraph Co.	3,998.3	270
Prudential Insurance Co.	3,129.5	38.6
The Pennsylvania R.R. Co. (estimated)	2,863.0	109
The New York Central R.R. Co. (estimated)	2,356.0	95
Chase National Bank	2,350.5	—
New York Life Insurance Co.	2,243.6	—
Standard Oil Co. (New Jersey)	1,894.9	50
National City Bank	1,880.7	—
Guaranty Trust Co.	1,847.4	—
United States Steel Corporation	1,822.4	193
Equitable Life Insurance Society of the United States	1,816.2	—
Alleghany Corporation (estimated)	1,739.0	—
Southern Pacific Co.	1,677.7	37
General Motors Corporation (estimated)	1,491.9	212
Consolidated Edison Co. of New York, Inc.	1,377.0	45
Bank of America National Trust and Saving Association	1,277.4	5.7
Mutual Life Insurance Co. of New York	1,239.0	—
Commonwealth and Southern Corporation	1,173.8	—
The Great Northern Pacific Ry. Co. (estimated)	1,152.1	16
Continental Illinois National Bank and Trust Co.	1,141.1	—
Northern Pacific Ry. Co. (estimated)	1,131.2	17
Associated Gas and Electric Properties (estimated)	1,125.4	20
Baltimore and Ohio R.R. Co.	1,118.3	35
Cities Service Co.	1,113.2	—
The Atchison, Topeka and Santa Fe Ry. Co.	1,091.6	42
Northwestern Mutual Life Insurance Co.	1,072.0	1.7
Union Pacific R.R. Co.	1,069.6	30
The North American Co. (estimated)	1,042.6	—
Bankers Trust Co.	1,031.7	—

grow and how he will carry on operations, taking the risks of the business, and obtaining whatever profits he can make, or carrying the losses if such there be. It is our assumption that the owner will in his own interest adopt the best methods of production that he can, and will invest his capital as wisely as he knows how. The motive of profit-making thus will lead him to courses of action that are of general advantage in making production plentiful, and competition among producers will oblige him to accept prices that are fair to consumers. Ownership, responsibility, and control are all united in the person of the owner-enterpriser, who at once owns the capital, directs the operations, and obtains the profits or bears the losses of the business. The self-interest of the producer is thus harnessed in the service of the community. Controlled by the remorseless pressure of competitors working through the price machinery, the producer in his search for profits almost inevitably does what is good for society, provided only that monopoly, fraud, and deception are prevented. This is the theory of free enterprise.

As soon as business comes to be done in part with borrowed capital, the practical situation is somewhat modified, though the theoretical position is little changed. The owner of the borrowed capital receives simply an agreed

[3] *The Structure of the American Economy*, Part I, pp. 100–101.

amount of interest on his loan, having no share in the profits of the business and bearing none of its losses. A farmer buys for $12,000 a farm on which he pays $5000 down, and gives a 7 per cent mortgage for the remaining $7000. The mortgage-holder now has the right to receive $490 a year from the farmer, no matter whether the business is profitable or not. In a good year the operator may make large profits, but he pays only $490 interest on his mortgage; in a bad year he may actually lose money on his operations, but he still must meet his interest payment of $490. Here the holder of the mortgage is, indeed, the owner of a part of the capital invested in the farm, but not of the farm. He has no control over the enterprise, no responsibility for its conduct, no share in its profits and losses. He is simply a creditor, who expects a fixed return on the capital he has loaned, leaving to the owner of the farm the responsibility of running it and taking the profits or losses. The lender gives up the responsibilities and opportunities of ownership, accepting a fixed return instead.

The legal theory of the corporation is based on these conceptions. In a simple capital structure, consisting of bonds and common stock, the stockholders own the enterprise pro rata. The bondholders are purely creditors, entitled to their agreed interest and no more. The stockholders, as owners, in theory direct the enterprise through their power to choose directors, who are simply their agents or trustees for the conduct of their undertakings. The profits of the business belong to the stockholders in proportion to their holdings. Thus the theory of the corporation broadly conforms to that of free private enterprise, in which the owner has full power and responsibility and gets profits or bears losses. Ownership, management, responsibility, and profits, in legal theory, are still united. Furthermore, in the small private corporation the facts still correspond with the theory. The chief stockholders run, or actively control, the business.

The Place of the Stockholder

In most large corporations, however, the number of stockholders has become so great that no individual or group of individuals owns more than a small percentage of the stock. Broadly speaking, the larger the company the greater the dispersion of ownership. The principal stockholder in the American Telephone and Telegraph Company, the Pennsylvania Railroad, and the United States Steel Corporation (the largest companies in their respective fields) in each instance holds less than 1 per cent of the stock. Berle and Means list 14 other companies in which the largest single stockholding is less than 3 per cent. They were able to obtain the stockholder lists of 144 out of the 200 largest corporations of the country. Only 20 of the 144, representing

less than 5 per cent of the assets, had each of them fewer than 5000 stockholders, while 71 had more than 20,000 apiece. More than half the assets belonged to companies with 50,000 or more stockholders each. Telephone stockholders, who numbered 60,000 in 1914, had multiplied to 680,000 in 1944. From 1914 to 1931 Pennsylvania stockholders increased from 91,571 to 241,391, and holders of United States Steel common from 52,785 to 174,507. The individual stockholder counts for nothing. The old significance of ownership has disappeared. It has become practically nothing but the hope of getting dividends, together with the power to sell that hope by transferring the ownership of a piece of paper, the stock certificate.

As was said in Chapter Nine, the ordinary purchaser of a few shares of the stock of a well-managed corporation buys the stock as an investment, just as he would buy a bond, thinking primarily of its cost and the anticipated income it will bring. He does not think of becoming part owner of the company, though in legal theory he does so. He has no intention of participating in its management or of running its affairs in any way. Yet he has acquired the legal right and responsibility of voting for the directors who are supposed to control the concern. Ultimate power in the corporation is vested legally and theoretically in the meeting of the stockholders. Each stockholder has one vote for each share of stock he holds. Voting may be done by proxy, and most stockholders in corporations of any size ordinarily exercise their voting rights only by sending in their proxies. Some time in advance of the annual meeting at which directors are elected, the stockholder will receive from the management a proxy, which he is requested to sign and return, giving certain specified persons the right to cast his vote at the meeting. Usually he will either sign and send it in or else throw it into the wastebasket and think no more about it. The normal result is that under any ordinary conditions the annual meeting of the corporation will be attended by a handful of stockholders (out of tens or hundreds of thousands perhaps) and by the management, who will hold proxies for the overwhelming majority of the stock whose owners have been interested enough to take any action at all. The management thus is able generally to elect its own directors and put through the annual meeting such policies as require the vote of the stockholders. In practical effect the stockholders thus abdicate any real control, though in law and theory their votes elect the directors and determine large questions of general policy. In fact, they merely ratify the actions of the directors. Therefore the stockholders in sober fact retain little except the right to receive dividends if the directors declare them, and the right to do as they please with their shares. It is this situation which has called forth vigorous discussion of the dangers of a management divorced from ownership.

The Board of Directors

Any attempt to describe the boards of directors whose actions the shareholders ratify is made difficult by the wide diversity which exists in their size, their quality, and the functions they perform. Their members may range in number from six or seven to thirty-five or forty. The board of the United States Steel Corporation has from fourteen to sixteen or seventeen members; that of General Motors, thirty-five. These members may be in large part the salaried officers of the company or they may be men entirely outside the management. When the proportion of executives among the directors is high, the distinction implied above between management and directors is lost; if it is low, we are justified in regarding management as constituting a group sharply differentiated from the board. To a layman it might seem desirable to make up a board from men familiar with the particular business of the corporation; but knowledge of a business is only one of many reasons for choosing directors. Wide acquaintance with other businesses or businessmen or with general business conditions or with foreign markets or with the world of finance may explain a choice. Sound judgment is much to be desired in men whose function it often is to give advice. Most boards contain a banker or two, sometimes because they are bankers, sometimes because their banks are trustees for large blocks of stock. Legal as well as financial counsel is necessary; thus lawyers are found on most boards. Many directors sit on boards because somehow their names have acquired high prestige value. Though the prevailing idea that directors are universally large stockholders is far from the truth, some directors are certainly on the board because of their large holdings.

The functions of these boards, as boards, have come to be in great measure passive. Decisions concerned with price and production policies and labor relations usually originate with the executives of the company and are approved or vetoed by the directors. Even with financial and investment policies, where the directors might be expected to take their own line, they are frequently content to approve what is placed before them. We have said that shareholders receive dividends if the directors vote them, but it is frequently true that the suggestion that they be voted by the directors and the amount to be voted emanate from the officers of the company. Occasionally, hard-working bodies of directors are found who render valuable co-ordinating services and determine all important policies. Such boards are far from being the rubber stamps of the executives; but for the most part the directors act rather as a body of advisers than as the policy-originating body on which the success of the business rests. Though the influence of directors as a body is

less than might be expected, there are often among the directors individuals who exert large influence, sometimes because of close relations with officers of the corporation, sometimes because of power to bring outside pressure—perhaps banking pressure—to bear on the company.

Management Control

If stockholders are impotent and directors are passive, the running of a corporation is left to the officers of the company—the president, an indefinite number of vice-presidents, a secretary, and a treasurer, along with various committees. These make up the management group, who represent, usually, little ownership but great power. Only in the rare event of a contest in which some group is sufficiently dissatisfied with the management to attempt to oust it, and sufficiently wealthy to undertake the heavy expense involved in circularizing stockholders, carrying on the necessary publicity, and collecting proxies in rivalry with the management, is there any possibility of the management's being overthrown by a revolt of the stockholders. The enormous advantage of the management in such a contest is apparent, and, in the absence of specially unfavorable circumstances, any reasonably efficient group is likely to be able, so far as the stockholders are concerned, to maintain its control almost indefinitely.

From the practical point of view, accordingly, as opposed to the legal theory (and fact) of stockholders' supremacy, it is perfectly possible for a minority interest or a management to maintain control of a corporation. In fact, as was just pointed out, it is precisely in this fashion that many of the best-managed of our great corporations are carried on from year to year. The larger the corporation the greater is the probability that it will be thus controlled. It is a scheme of government by an active, competent handful of persons, subject to a veto power, very difficult to exercise, by a mass of passive and somnolent voters or by a complaisant board of directors.

It is scarcely an exaggeration, therefore, to think of the actual management and, indeed, control of the most highly developed present-day corporations as having passed out of the hands of the legal owners, the stockholders, into those of small groups of directing businessmen and financiers. This movement is not the result of bad faith on the part of the managers of corporations, though it has created abundant opportunities for the exercise of such qualities. It is a consequence of the practical necessities of business life. Decisions must be made, and management must make them. Stockholders have, in effect, given up the legal rights inherent in their ownership, accepting in return a status that approaches more and more nearly that of a creditor. They con-

tinue, however, to bear the risks of the business, and they hope for higher returns than can be realized on good bonds. The owner has thus, in reality, lost the management and control of his property. Management has passed into the hands of the executives, and control as well in many instances, though the directors may retain it.

Methods of Control

Corporate management can carry its purposes out only by retaining financial control of the company. If it comes to a contest, the management must be able to command the support of more shares of the voting stock than any opposed interest can muster. In order to maintain such control, however, it is by no means necessary to own a majority of the stock of the corporation. Of course the ownership of an actual majority of the voting stock gives absolute control of its properties. It thus puts the capital of minority owners, save for the protection afforded by the law, at the mercy of the majority control for such corporate purposes as they think wise. If minority owners do not like it, they may get out by selling their stock for what it will bring. This is the essence of the corporate form.

But actual majority control is unusual in the large modern corporation. Indeed, such control has become almost impossible in the largest concerns, for their capital has grown beyond the resources of any man or any compact group of men.

As a result, various substitute methods for acquiring control divorced from ownership of any but an infinitesimal portion of the stock have become common practice. Some of these are conveniently grouped as legal devices. By far the most important of such devices is the process of pyramiding corporations described in the next section and admirably illustrated by the intricate structure created by the Van Sweringen brothers, in which ownership of less than 1 per cent of the total investment was at one time sufficient to control their entire system. The working of some of the less significant practices can be indicated briefly. Affixing voting rights to but one class of stock suggests at once the legal possibilities inherent in the corporate form. A corporation with outstanding bonds and preferred stock, if it limits the voting privilege to holders of common stock, has already limited control to one group of the three that have supplied capital. The process may be pushed still further, and two, or even more, classes of common stock may be issued, only one of which may carry voting rights. If the management wishes to limit control to its own numbers, it sometimes issues, as the sole voting stock, management stock which is sold only to those designated in the inner circles of the corporation.

A second practice, sometimes used when a company has passed through a reorganization and faces an uncertain future, is the establishment of a voting trust. Shareholders surrender their voting privileges, usually for a specified period, to a small group which assumes the responsibility of management. This differs from the illustration of the preceding paragraph in that it is an open arrangement, understood and accepted by the stockholders and the public, usually established for a limited period and for the express purpose of providing wise guidance for the corporation.

As distinguished from the means of control thus far cited, so-called minority control rests on no legal foundation but on the practical conditions of stock ownership. It thus becomes, in times of stress, a more precarious control, of which its possessors may be deprived when they most desire to retain it. If most of the holdings are widely scattered, while a single stockholder or group owns a substantial proportion, though a minority, of the stock, the large stockholder under ordinary circumstances may maintain working control. Under these circumstances a 20 per cent stockholding may be practically as effective as actual majority ownership. A dollar in stock thus may control five dollars of actual assets in the form of factories and machines.

The process, however, goes yet further. The management of a company may actually maintain control without having any really significant stock ownership. The practicable courses open to the stockholder in those corporations with widely dispersed shares are abstinence from voting or assignment of his proxy to an unknown individual or group suggested to him by the management. Since the existing management chooses the proxy committee, which, in turn, chooses the directors, the control may well be called management control.

It is not without interest to note the result of Berle and Means's examination of the ultimate control of the two hundred largest companies at the beginning of 1930. We summarize those results thus:

Table XIII · Control of 200 Largest Corporations, 1930

	BY NUMBER	BY RESOURCES
Management control and legal device	65%	80%
Minority control	23%	14%
Majority ownership and private ownership	11%	6%

Two thirds of the companies, by number, controlling four fifths of the wealth of the entire group, it will be observed, are controlled either by management or by a legal device representing only a small proportion of ownership. The bulk of the stock is believed to be owned by the public. At the other extreme,

only one out of nine of the corporations, controlling a sixteenth of the wealth, is under actual majority or private ownership and control.

It has been suggested above that stockholders entrust their funds to corporation managers, and the impression may possibly have been given that the latter group has been more or less passive in the process. Nothing could be further from the truth. The men who come to the top in corporation affairs are in general forceful and ambitious, self-confident, eager for wealth and power. Not only are they willing to handle the funds of others, but they are anxious to enlarge their own powers, and the whole discipline of business is calculated to develop such characteristics. Our Napoleons of industry, and especially of finance, have been highly expert, with the help of skilled lawyers, in devising machinery for getting control of more and more capital. The corporation itself is such a device, and the whole development of corporate finance has been, from one point of view, a growth in the power of financiers and corporate managers to control the capital of others.

Corporate Combinations: the Holding Company

Control of this capital is exercised within the corporation by the methods described above. In its fullest development the control of combinations of corporations is the next step. There are two general classes of such combinations: those in which the existing corporations are merged or amalgamated and one mammoth company results, and those in which combining companies retain their corporate identity. In the first group, once the merger or amalgamation has been accomplished, the usual methods of control within a corporation can be applied. The combination of companies which retain their identity calls for more careful examination. Of all devices for this purpose, probably the most striking is the holding company, a company which invests in the securities of other companies in order to control their policy. It is essentially a growth of the past fifty years, and the greater part of its development has taken place during the present century. It may be used for purposes socially advantageous or the reverse, and at a later point in our discussion we shall show how it is employed in ways serviceable to the public. First, however, we want to indicate simply the possibilities of control of capital that it involves, and the consequent possibilities of financial gain and loss to holding-company organizers and owners. The figures used below are purely hypothetical, and are designed only to bring out the principles involved. They do not exaggerate actualities that have existed in some holding-company structures, however unduly they simplify such structures.

A group of ambitious financiers with $125,000 organize holding company

A, with a capital of $1,000,000, consisting of $500,000 in 5 per cent bonds, $250,000 in 7 per cent preferred stock, and $250,000 (2500 $100 shares) in common stock, which we will assume has the sole right to vote. The organizers sell the bonds, the preferred stock, and 1250 shares of the common stock, and themselves buy the other 1250 shares of the common stock. Thus, as majority stockholders, they keep control of the company for themselves.[4] The $1,000,000 thus realized is used to buy that amount of the common stock of company B, an operating company that runs a cotton mill and that is capitalized thus: common stock, $2,000,000; 7 per cent preferred stock (nonvoting), $2,000,000; 5 per cent bonds, $4,000,000. The entire capital of company B, we assume, is invested in actual plant for the production of goods. Holding company A, owning a majority of the voting stock of company B, completely controls that company. The organizers of company A, owning a majority of its voting stock, completely control company A, and therefore control its operating subsidiary, company B. Every dollar of the $1,000,000 invested in company A thus controls eight dollars in company B, while every organizer's dollar invested in A, being only one eighth of its whole capital, thus controls no less than sixty-four dollars' worth of actual producing equipment belonging to company B.

Suppose now that the process is carried a step further by what is known as pyramiding, that is, putting one holding company on top of another. Company B in this case, we will assume, instead of being an operating company is itself a holding company. Its $8,000,000 of capital is invested in equal parts of $1,000,000 each in the common stock of eight companies, C to J, each of which has outstanding $2,000,000 of common stock, $2,000,000 of nonvoting 7 per cent preferred stock, and $4,000,000 of 5 per cent bonds. These eight, we assume, are operating companies, and the proceeds of their $64,000,000 worth of securities are invested in actual producing plant. Thus each dollar that the organizers originally put into company A now controls five hundred and twelve dollars' worth of actual equipment.

Of course, the real process of organization, of buying, selling, and exchanging securities is vastly more complex than is assumed in this simple example, but the essential principle is that here illustrated. Further, the possibilities involved in pyramiding are by no means exaggerated in our illustration. As a matter of fact, in the celebrated Insull public-utilities pyramid no less than ten layers of companies were piled one on top of another; and in the Associated Gas and Electric pyramid two men, with an investment of not more than

[4]Actually they would have to own one share more than half in order to maintain absolute control. We have given them exactly half in order to keep the figures simple. For the same reason we assume that all security transactions are for cash, at par.

$298,318.19, controlled operating properties with a book value of $907,000,000. One dollar in securities ultimately controlled three thousand in actual working properties. When the Van Sweringen railroad empire was put on the auction block in 1935, after the failure of the Van Sweringen brothers, a manufacturer of fruit jars, by the expenditure of a little more than $3,000,000, became owner of securities of the top holding company that gave him control of operating railroads valued at about $2,000,000,000, and other enterprises worth an additional $1,000,000,000.

The Holding Company: a Source of Income

The astonishing possibilities of industrial control involved in the pyramiding of holding companies perhaps have been sufficiently illustrated. The possibilities of profit (and loss) remain to be indicated. In the example of the second paragraph preceding, assume that each of the eight operating companies, C to J, makes the moderate return of 7 per cent on its capitalization of $8,000,000. A net income of $560,000 is available for distribution to security-holders. Further, in order to make the principle clear, assume that all earnings are, in fact, distributed. The results in operating company C are as follows:

Earnings of company C		$560,000
Bond interest (5% on $4,000,000)	$200,000	
Preferred dividends (7% on $2,000,000)	140,000	340,000
Common dividends (? on $2,000,000)		$220,000

The common dividend, it will be noted, works out at 11 per cent. Now comes the point important for our purpose. The holding company B, capitalized at $8,000,000, holds as its only asset one half ($1,000,000) of the common stock of each of the eight operating companies C to J. From company C, therefore, it will receive one half of the common dividends of $220,000, or $110,000. From all eight it will receive eight times that amount, or $880,000. This will be distributed as follows:

Earnings of company B		$880,000
Bond interest (5% on $4,000,000)	$200,000	
Preferred dividends (7% on $2,000,000)	140,000	340,000
Common dividends (? on $2,000,000)		$540,000

The common dividends, it will be observed, are at the rate of 27 per cent.

Pursuing the matter one step further, we recall that holding company A owns one half of the common stock of holding company B. It will therefore receive $270,000 (one half of $540,000) as its share of the dividends.

The distribution to security-holders of company A is as follows:

Earnings of company A		$270,000
Bond interest (5% on $500,000)	$25,000	
Preferred dividends (7% on $250,000)	17,500	42,500
Common dividends (? on $250,000)		$227,500

The dividends of the common stockholders of company A are at the extraordinary rate of 91 per cent, though earnings on the capital of the subsidiary operating companies at two removes in the corporate pyramid are at the moderate level of only 7 per cent. The organizers of company A not only manage to get control of large properties, but by doing so get enormous returns on their investment. In selling to the public a minority of the common stock of their company, they offer them the possibility of the same return on their investment, but no control whatever over their own company or its subsidiaries. It is easy to see why ambitious financiers have wanted to form such companies, and why in prosperous times the public have bid eagerly for securities. The pyramiding of holding companies has been a tempting financial business, often pursued with scant consideration of underlying industrial realities.

But just as it offered the possibility of large gains, it involved the danger of great losses. Let the return on the capital of the operating companies C to J fall only to $5\frac{1}{2}$ per cent. The results for each are as follows:

Earnings	$440,000
Bond interest and preferred dividends	340,000
Common dividends (5% on $2,000,000)	$100,000

One half this sum, or $50,000, goes to holding company B, whose total income from its eight subsidiaries is accordingly $400,000. It will be distributed thus:

Earnings	$400,000
Bond interest and preferred dividends	340,000
Common dividends (3% on $2,000,000)	$60,000

Of this sum holding company A gets one half, or $30,000, which will be distributed thus:

Earnings		$30,000
Bond interest (5% on $500,000)	$25,000	
Preferred dividends (2% on $250,000)	5,000	30,000
Common dividends		None

A reduction from 7 per cent to $5\frac{1}{2}$ per cent in the earnings on capital of the operating companies not only wipes out completely dividends of 91 per cent on the common stock of company A, but even makes it impossible to pay more than 2 per cent on the preferred stock.

This result follows with only two holding companies superposed on the operating subsidiaries. If there were still a third concern on top of A, it would have no income whatever, and could not even pay interest on its bonds. The moral is obvious. A pyramided holding-company structure like that here illustrated is highly unstable financially. Not only the common but the preferred stock, and even the bonds, of the upper companies in the pyramid are speculative securities; for they represent nothing more than the possi-

bility of sharing, at some removes, in the earnings of the common stock of their operating subsidiaries.

It should not be supposed that most holding companies have the financial structure of our illustration, nor should it be supposed that this device has been used exclusively to stretch a small amount of capital as widely as possible. Holding companies do not commonly limit their ownership to the majority of the common stock of their subsidiaries. Not infrequently they buy up not only all the common stock but all the preferred and the bonds as well, as far as they can. This 100 per cent ownership represents the best financial practice. It destroys the possibilities of extravagant gain and loss involved in such an indefensible holding-company financial structure as we have illustrated. Our purpose has been simply to suggest the glittering possibilities that such a structure holds out, and the dangers of grave abuse and of financial instability that it involves.

During the ten years between the ending of the first World War and the onset of the great depression extensive use was made of the holding company as a device for combining operating companies into larger business units and uniting those units into great systems. Particularly in the field of electric power, which at that time was growing rapidly and offered possibilities of large profits, there was an epidemic of combination. Holding companies were piled one on top of another, sometimes in layers eight or ten deep. A highly profitable business developed in the sale of holding-company securities to investors, lured on to make those essentially speculative purchases by the large gain accruing to holding-company stockholders in a period of prosperity. Many such securities represented little but an inflated capitalization based on fantastic expectation of unrealizable earning power. With the bursting of the bubble in the fall of 1929, billions of dollars' worth of these securities became almost valueless. Largely as a result of these and other abuses three important measures of legislation were enacted: the Securities Act of 1933, the Securities Exchange Act of 1934, and the Public Utility Act of 1935, to be discussed in later chapters.

The multiplication of holding companies and their securities, it will be observed, does not in itself increase the earnings of operating companies. Such an increase will not come about unless the holding company renders real service to its subsidiaries. The driving force behind the growth of such holding companies as are here cited has been chiefly the opportunity they offered for some corporation managers and their bankers to increase their power or their immediate profits. This was all too frequently at the expense of an uninformed and gullible investor. Holding-company formation and operation have been too largely a matter of finance and not of industry.

Services of the Holding Company

It should not be thought, however, that such is necessarily true. If new money obtained from the sale of holding-company securities is honestly and intelligently used to increase the facilities of the operating companies, then the result of course will be to increase actual earnings from operation. The holding company, conservatively used for the purpose of aiding operating companies by providing them with additional financing and expert service more cheaply than they could themselves make such provision, often proves advantageous to the subsidiaries and to their other security-holders. Indeed, by thus helping to cheapen production, it sometimes aids in lowering prices to the consumer. Such is its possible service and justification.

It has, in fact, been widely employed for these legitimate industrial ends and has proved a useful device for the increase of productive efficiency. Many of our largest corporations are pure holding companies, and the activities of those who direct them are as little concerned with financial manipulation and stock-market operation as is possible under the present organization of business. An excellent example is the Standard Oil Company of New Jersey, greatest of all concerns in the field. To quote from the president's annual report to stockholders covering the year 1936:

"Standard Oil Company (N.J.) is a holding corporation carrying on no commercial business. Its subsidiaries are domestic and foreign. There are ten members of the board of the parent company giving their full time to its work. Their average service exceeds 34 years each. There are no outside directors, and no representatives of particular stockholders, banking interests or suppliers. The function of the board is to serve approximately 225 subsidiary companies in an advisory capacity. Operating control is exercised by local boards, membership on which—as is true of other executive positions—is held in almost every instance by employees who have moved up through the ranks. It has always been the company's policy to fill vacancies by promotion."

The Standard Oil Company of New Jersey owns the securities of its 225 subsidiaries in all parts of the world for the purpose of directing their operations as a unified whole, to produce, refine, and market petroleum products with maximum efficiency and minimum expense, thereby making whatever profits are possible for its stockholders. In 1936 the operating subsidiaries "produced crude oil not only in the United States but in fields as far away as Netherlands East Indies, Iraq, the Arctic and Peru. Much of this oil moved by tankers, traveling halfway around the globe, or through pipe lines

into refineries in twenty countries." The companies operate practically throughout the world, except in Russia. The Standard Oil Company of New Jersey controls dozens of drilling companies all round the globe. It controls many of the most important refining companies. It controls pipe-line companies for the movement of oil and natural gas. It controls shipping companies that own one seventh of the world's total tanker tonnage. It controls marketing companies, both domestic and foreign. It controls the Standard Development Company, which carries on scientific research and development activities for the refining units. Plainly enough, the bewildering variety of activities here suggested cannot possibly be directed in detail by any central body. Operating control is therefore vested in the local boards.

In the central office in New York, however, the ten directors who compose the parent board determine the general policies that control the activities of all subsidiaries. They are able to integrate and direct those activities in such a way as to help in bringing about the maximum efficiency of all this world-wide combination of enterprises. The $656,000,000 of common stock of the company, the only stock outstanding, thus controls, generally by majority ownership, all these subsidiaries, and the 121,000 stockholders, by continuing the board of directors in office from year to year, continue that control actually in the hands of these ten men. There has been steady progress in all the manifold technical tasks of finding, extracting, refining, and marketing oil, and the Standard has maintained its place in the forefront of such progress. The unimpeachable credit of the great holding company has made it possible to raise capital cheaply to meet the growing needs of the subsidiaries. The power of the directors has been used for the purpose of building an organization to turn out oil products as cheaply as it can be done. The result has been financial prosperity not only for the subsidiaries but for the holding company as well. It is in the history of such concerns as this that the justification of the holding company must be sought.

As appears clearly from the entire discussion preceding, it is impossible to say that the holding company, any more than the corporation itself, is a good or a bad thing in its industrial effects. It depends on the use to which the device is put. It is plain, however, that the holding company further increases the power of corporate management by giving holding-company directors control over larger capital than they could otherwise command. This widening of power has tempted many forceful, financially minded men to use their energies in the organization, promotion, and management of holding companies with only secondary consideration of the industrial results of their actions. The process of pyramiding, with its complication of corporate structure, has been almost wholly indefensible from the industrial point of view. In many in-

stances it has injured the ordinary investor, who needs to be encouraged to make conservative investments, not to buy speculative securities.

Problems of Power in the Corporation

The holding company only presents in somewhat new form the same problems that have arisen with increasing urgency from the day when the quasi-public corporation first made its appearance. Those problems arise largely out of the disintegration of the powers and responsibilities of corporation owners, and the aggrandizement and growth in power of the managing businessmen and the controlling financiers.

The key to the conduct of modern corporate enterprise is to be sought in the purposes and methods of the persons who manage and control it. They are the active group, who make the crucial decisions. This widening of managerial power has necessarily given opportunity for abuse of such power, and many chapters of corporation history are far from pleasant reading. There is no reason, however, to suppose that great corporation managers are either better or worse than other businessmen, except that they probably have unusual business ability. Their interests are sometimes identical with those of their stockholders, sometimes diametrically opposed; the interests of their corporations are sometimes identical with those of the general public, sometimes opposed. Since corporate managers and directors are men and not archangels, in making their decisions they cannot be expected always to choose what is in the interest of the general public or in the interest of their stockholders, in opposition to their own interest, particularly as the choice is not likely to be entirely clear. Yet it is plain that in a quasi-public corporation the stockholders are, in fact, obliged to regard the directors of their corporation as trustees for their interests, and that unless directors live up to what are, in reality, fiduciary obligations the corporate system cannot work. Further, it is plain that corporation directors cannot be allowed to exercise their tremendous powers without restraint in those situations in which the interests of the corporation are opposed to those of the general public.

In studying corporation management the student must keep constantly in mind that the industrial and the financial functions and operations often become widely separated in a great organization. Large financial gains and great industrial power may be, and often are, attained by financial manipulations that have little relation to underlying industrial productiveness. More money may be made for a time by juggling the securities of steel concerns than by the hot and difficult process of making steel. If the men in control of a corporation give their thought and interest primarily to financial con-

siderations, the result is likely to be disastrous to stockholders, because in the long run dividends must be paid out of earnings, and earnings finally must come from plant operation, not from stock-market dealings. In recent years we have heard much complaint of banking control of industry. A good deal of it has been justified. Such complaint means that financial considerations have taken precedence over industrial ones. The growth in the scale of corporate enterprise tends, on the whole, to divert the attention of many leaders increasingly from industrial to financial considerations. Here their immediate interests are most likely to be opposed not only to those of the public they serve but to those of their own stockholders and investors as well.

The managers of a great corporation are subject to a wide variety of influences, and different groups of managers represent a wide variety of men. The ideal of the best corporate management has perhaps nowhere been better set forth than in a statement made some years ago by the president of our largest corporation:

"The only sound policy that will meet these obligations is to continue to furnish the best possible service at the lowest cost consistent with financial safety. This policy is bound to succeed in the long run."

At the other extreme stand the group of financial pirates who, from the beginnings of corporate enterprise in the United States down to the present day, have looked on undertakings of this type primarily as means of making quick gains for themselves, with scant regard to the interests either of the public whom corporations are supposed to serve or of the investors whose funds they gather together.

The growth in the scale of corporate enterprise does not in itself change the purpose of management in one direction or the other. It simply increases its opportunities, powers, and responsibilities. While the business of the Union Pacific Railroad, the Standard Oil Company of New Jersey, or the General Motors Company is, in the eyes of the law, private business, in reality it is business of high import to the public. Such corporations must be run so as to make profits, yet they can discharge their public responsibilities only as their directors give thought not alone to profits but to the industrial functions the organizations perform. It is not easy to live up to the standard of integrity, wisdom, and disinterestedness requisite to a socially adequate discharge of the duties of those in high corporate position. The great corporation is private property, but its affairs are by no means exclusively private business. The body of corporation law seeks to lessen abuses and to guide corporate development along lines considered socially advantageous. To use a legal phrase in what has become almost accepted legal sense, even our law

has come to recognize that practically all the doings of such a corporation are "affected with a public interest." The chairman of the board of directors of one of our quasi-public organizations recognized all this when he wrote of his company, "It has the threefold obligation of keeping its policies in consonance with the public interest and with the interests of more than two hundred thousand men and women whose savings have been entrusted to it and with the interest of the two hundred and fifty thousand employees who depend upon the Corporation for a living."

If we attempted to sum up in a few words the gist of what has been said in this chapter, it would come to something like this: the huge aggregations of capital, along with the separation of ownership and control, have changed our concept of property; have created a distinction—and sometimes a conflict—between the purposes of management and those of owners; have greatly modified the working of our free-enterprise, competitive, price-controlled system; have increased the risks of investment; and have created enormously powerful groups within our society whose purposes may often be not the general welfare but private interest.

PART THREE

VALUE AND PRICE

CHAPTER ELEVEN

The Importance of Prices

PRICE is the central fact of modern capitalistic society. This was not true of manorial England, where, as we saw, people for the most part lived in small self-sufficing communities, with little division of labor, exchange of goods, or use of money. Commonly they had scant concern with prices. Their labor for a portion of the time was given to the lord of the manor, who, for his part, granted to them the use of the land on which they produced their own necessities. Under earlier slave systems the laborer worked for his master, and in return received his living, such as it was. Colonial Americans also were independent of prices, though in lesser degree. In their day the great body of things were not bought and sold but were consumed by those who produced them. Prices, therefore, were of secondary importance.

Today, however, in the United States and in all other parts of the world that are organized under capitalism, prices are both the central expression of the operating economic forces and the machinery for controlling their operation. Through the business enterprises of the preceding chapters almost everything is bought and sold. Every one of us is affected every day of his life by the working of the price machinery. Our income comes to us in the form of money, perhaps as a price for our labor or for the use of our capital by a corporate unit, and the value of that income to us is changed by every change in the price of the multitude of things we buy. Moreover, most of us buy nearly everything we use. Let prices double, therefore, as they did during the first World War, and unless our money income has changed, its value is cut in half. If prices of farm products rise in comparison with those of manufactured goods, farmers pay off their debts and live more comfortably. If prices in general fall, as they did during the thirties, debtors are unable to meet their obligations out of the proceeds of sales of goods that must be made at shrunken prices. They turn over their property in great amounts to their creditors, who thereupon receive the return from it which formerly went to the now dispossessed owners. These examples perhaps sufficiently illustrate the statement that prices are the central feature of contemporary capitalistic society operating through business units. The businessman decides to expand his plant, to hire more labor, to modify the character of his product, because of

existing or expected price relationships. He regards the prices which determine his decision as outside his control; but his action, whatever it is, helps to determine future prices and new price relationships. In the same way the consumer who turns away from the "too expensive" radio has made his decision because of a price outside his control. Yet his decision, along with hundreds of others, will help to determine future prices. We necessarily think and act continually in terms of prices without realizing that prices are accomplishing not one but several kinds of control, all closely related and all important.

The Functions of Prices

1. The Rationing of Consumers' Goods · The first and most important function of prices is to prevent some people from getting goods which, if free, they would struggle for, and thus to keep down the consumption of all kinds of products to the quantities actually turned out. This function of excluding would-be consumers, unamiable as it sounds, is the basic service performed by prices. Plainly, as long as goods are limited, that service must be performed by some agency, since men's wants are unlimited. Suppose that we should undertake to make automobiles, gasoline, and garage service free. We should be obliged to use an increased proportion of our labor and capital in turning out cars and building roads, to the detriment of other branches of production. If all the useful and desirable products of human ingenuity were to be had without money and without price, the call for goods would immensely outrun not only existing but all possible capacity for production. Some other way would have to be found to limit consumers to the quantities of goods that could be turned out with the existing labor and plant. This end is now accomplished by the working of our price system, which automatically excludes from the enjoyment of the automobile all those millions who cannot command the few hundred dollars necessary to buy one, or who prefer to use those dollars for some other purpose more important to them. To say this, is not to pass any judgment on the fairness or desirability of existing arrangements. In every society the use of goods must be restricted by some means. An alternative possibility would be the rationing of goods by a central authority instead of letting prices do the rationing. During the second World War the allocation of many goods in common use was accomplished by attaching to them a system of point values in addition to their prices. To ensure a wide distribution of these goods each consumer was allotted a limited number of points. The Bowens might be excessively fond of roast beef and possessed of an income large enough to buy all that appeared in the market; but their

restricted supply of points must procure bacon, butter, cheese, and salad oil, as well as roast beef. Their purchase of roast beef thus was limited not by the price of the beef but by the point values arbitrarily ascribed to it and to other necessaries. Under emergency conditions, such as flood, fire, or other disasters, we may go even further and allocate the limited available supplies of essential goods to those in need, quite irrespective of their ability to pay. Such methods of restricting consumption, were they to be maintained permanently, would deprive prices of one of their significant functions. Generally we trust the price system to restrict consumption to those who can pay the prices demanded, that is, to accomplish a rationing guided by income. An important exception to this principle should be noted, and will frequently be reiterated. Many services produced by governments are not sold but are given to all who want them—and indeed sometimes to those who do not. Witness the schoolboy who would like to be out fishing.

2. The Giving of Free Choice to the Consumer · The second service of the price system consists in giving to the consumer complete freedom of choice within the limits set by his money income. The delighted recipient of a check at Christmas, in place of an unreadable book or an unwearable necktie, thoroughly appreciates the power of choice conferred by the use of the check; the bride with her twenty-first pickle dish has lost the satisfaction she might have gained from choosing her own possessions. Each family has the opportunity of getting the maximum possible satisfaction out of its income by spending it for just those things, out of all the infinite variety produced by modern industry, that it thinks will yield it the most gratification. Nor is this freedom of choice limited to those who have comfortable or large incomes. Even a family living on the edge of destitution exercises a considerable range of choice among foodstuffs, articles of clothing, and all the other things that enter into the scale of living of even the poorest people today, though well-to-do persons are not unlikely to criticize the choices of these spenders. We all know how to spend other people's money. Of course, the larger the income the wider the range of choice. Under an authoritarian rationing system, on the contrary, the consumer cannot get such goods as he chooses, within the limits of his income, but only such goods and in such amounts as the rationing authority may determine. Again, our experience during the war illustrates how our price system can be modified at need to reduce our freedom of choice without completely destroying it. The Bowens could expend their entire allotment of points for roast beef if they were willing to forego all butter and cheese. Within limits they were free to choose. With some commodities, on the other hand, they were left no power of selection:

their sugar stamps could not be used for coffee, nor could their shoe stamps be applied to purchase some other scarce and desired article of clothing. While wartime rationing left to consumers much less freedom of choice than is exercised under the normal operation of our price system, it by no means destroyed that freedom.

3. The Distribution of the Product · In addition to giving freedom of choice to the consumer, prices provide the machinery by which the total volume of goods is distributed or divided among consumers or would-be producers. This amounts to saying that prices determine our money incomes and the real incomes which we obtain by spending our money incomes. First, as consumers, we all receive a considerable part of our income in the form of money. How much of the total of goods produced we can get depends on how much money income we have. That income we receive either (1) as a price for our labor (wages or salary); (2) as a price for the use of property that we own (rent or interest); or (3) as profits, which, as already pointed out, depend on comparative prices. The labor of a highly skilled lawyer may bring in $100,000 a year. He and his family can command that value of goods. The price of unskilled labor may be so low that a worker of that type cannot earn more than $600 a year. That is the limit of his ability to get the things by which he must live. A third person has inherited $1,000,000, well invested in sound industrial bonds yielding 5 per cent, or $50,000 a year. Without turning over a hand, he can enjoy each year $50,000 worth of goods because he owns a million dollars' worth of capital, and because 5 per cent is the price that industrial concerns are paying for its use. A fourth man owns a farm that rents for $1000 a year. Because $1000 is the price paid by his tenant for the use of the farm, the owner can get $1000 worth of whatever he most desires out of all that is produced during the year. A fifth man owns a contracting business. The prices he receives on all the construction he performs during the year exceed by $10,000 the total sum he has to pay for his materials, labor, and all other costs. He has a profit of that amount, and can get with it $10,000 worth of whatever he may want out of the year's product, from a beefsteak to a trip to Europe.

Broadly speaking, then, money incomes (with the exception of pensions) are determined by prices. Except for farmers, some of whom produce a good deal of their own food, most of us have little income except what comes to us first in the form of money. Hence our real income, that is, the goods that we enjoy, is proportioned to our money income. Thus, through the operation of our price machinery, the total of consumers' goods annually produced in the United States is divided up among the one hundred and forty million

people who consume them. In that process it perhaps results that one family lives in three rooms, is clad in rags, and is fed on bread and potatoes, while another occupies a palace in New York, a ten-thousand-acre summer estate in the mountains, and a winter home of regal magnificence in Florida, enjoying half a dozen automobiles and a yacht, faring sumptuously every day, and journeying to the ends of the earth whenever the fancy strikes.

It should be emphasized that from our generalization that real incomes are determined by prices we must exempt government products. The services of the policeman, the street-cleaner, the public-school teacher, the Weather Bureau, the public parks and playgrounds, the streets and roads—in fact, most of that considerable fraction of total national income produced by the activities of government agencies—are not distributed on the basis of people's willingness and ability to pay for them, as the year's production of bread or automobiles is distributed. The present-day American gets no inconsiderable portion of his real income in the form of such services. That portion does not depend at all on his money income.

The functions thus far described pertain to the effect of price on consumers, but its influence does not stop there. Through the operation of the price machinery, the control of the total of producers' goods annually created likewise is divided up among those who will make use of them. That is to say, individual businessmen and corporations among them either buy or lease the new instruments of production turned out from year to year; so that the total of such instruments, as opposed to consumption goods, is brought under control of those who actively direct production. The process, as we shall see later, is much more complicated than is the distribution of consumption goods. We are here not concerned with the results of the process, but simply with the fact that it is effected through the mechanism of prices. Wartime practice once more illustrates a different method of allocation. When the national defense demands the production of certain essential products, there must be adopted an authoritarian system of distribution of the means of production. Priorities and preferences are established; even the movement of manpower is controlled. Steel is no longer sold to the manufacturer who will pay for it because he sees an opportunity to use it with profit to himself. Instead it must be allotted to those enterprises which produce what war requires. Trucks cannot be purchased by unessential industries where essential ones are handicapped by lack of them. Control of the apportioning of materials for production is likely to be much more drastic than the control of consumption. Prices still exist, but they are not allowed to determine the allocation of goods necessary for production. This limitation curtails their power to perform their fourth function.

4. The Direction of Production · The fourth service of prices in our organization is to direct production. What have been called the dollar votes of consumers ultimately determine what is to be produced. The process is endlessly complex, but in it the consumer has the last word. The efforts of businessmen have to be directed finally to turning out what he wants and can pay for or what he can be induced to want and pay for. Henry Ford discovered that millions of Americans wanted and could pay for cheap cars. Within twenty years an enormous industry sprang into existence to meet that want, because manufacturers found that they could get prices for automobiles that more than covered the cost of producing them. Meanwhile the production of carriages dropped, because manufacturers could not get prices for them that covered the cost of their production. During the years between the first World War and the depression, prices of farm products were low by comparison with those of manufactured goods. Young men in unusually large numbers drifted from the farms to the cities in order to get the higher wages made possible by the relatively high prices of manufactured products, and American farm population declined. Relative prices directed a larger proportion of our population from farming into manufacturing. Since 1925 there has been a shift of demand from cotton to silk and rayon goods. This shift created a new set of price relations that made the cotton industry less profitable, silk and rayon production highly profitable. The poorest cotton mills had to close down while enterprisers hurried into the making of rayon. In ways like these, prices serve to guide production.

It is an extremely rough-and-ready kind of guidance, but it constitutes our main dependence in determining what shall be produced and how much of each product. The businessmen of the country, including the farmers, make the actual decisions, each trying to make his business as profitable as he can. Each of them, in deciding what he is going to produce and how much of it, has to be forever watching prices; and he has to see to it that the total prices he gets for what he sells are at least equal to the total prices that he pays for the materials and the labor and capital that he employs in making his product. If they are not, then he is losing money and sooner or later he will have to stop. Thus, by the working of the price machinery, operating through the decisions of profit-seeking businessmen, there are called into existence goods that producers believe people will buy at profitable prices. Thus the productive organization is forever being adjusted, however roughly, to the changing wants of consumers.

At the beginning of this chapter there was the implication that one needed to be on guard against any idea that the direction of production was a matter of simple one-way causation. Prices do, indeed, direct production in the ways

suggested above, but production likewise helps to determine prices. Furthermore, some businessmen are in a position to set prices more or less as they will, adjusting production to the amount they can sell at those prices. Moreover, by advertising they attempt, often with great success, to make it possible to sell larger amounts at particular prices. To understand the process of production-direction by prices, as it actually works, one must think, on the one hand, of men as consumers, with their endlessly varied and endlessly changing wants, and, on the other hand, of men as producers, acting through business enterprises, and each looking for his opportunity to turn out something that can be sold at a profit. Each producer is trying to use what resources he can command to turn out that quantity of goods which he believes will bring him the most profit. The guide to his decisions is to be found in the relations among anticipated prices. He must consider the prices of the different goods he might make, in order to decide which he will make. He must consider the probable selling price of his product and the total of the prices that constitute his cost of making the product, in order to determine his possible profit. In consequence of the varied decisions which are made, goods of all kinds are brought into existence in the hope of profitable sale. Once created, they must sooner or later be sold, and a price situation may arise quite different from that anticipated by the producer when he embarked on his plan. This new price situation may cause a new anticipation of what is ahead, and differing quantities of products of various kinds may in turn be produced. It is thus that businessmen are forever making their decisions under the guidance of prices, and it is thus that we speak of the direction of production by prices. Such is the very essence of our capitalistic system of production.

The decisions referred to in the preceding paragraph, it should be noted, are not only immediate but also long-time decisions. They involve today's investment as well as today's production. In view of immediate business prospects General Motors may decide to make a million Chevrolet cars this year. Looking ahead for ten years, it may decide to spend fifty million dollars at once in enlarging its plant to take care of anticipated increase in demand. Such increase may materialize, or it may not. Whether it does or not the fifty millions nevertheless have been irrecoverably sunk in buildings and equipment largely useless for any other purpose. In case of error the price guidance has operated imperfectly, but it has operated none the less. The investment was made, the enlarged plant was brought into existence, because those responsible believed that future price relations would make it possible to operate it profitably. Decisions based on long-time expectation are evidently much more complicated than those which have to do with the immediate determination of the most profitable quantity of goods to turn out with the existing

plant. For our present purpose it is enough to note that under our capitalistic scheme both the easier and the harder decisions are made by the businessman, be he individual proprietor or corporation executive, under guidance of his anticipation of prices of all kinds in both the near and the more distant future. Prices, working through businessmen's anticipation of profit, thus serve in rough-and-ready fashion to direct the production not only of consumers' goods but of producers' goods as well. They are the businessman's guide.

Again it is necessary to recognize that there are important exceptions to the facts of the preceding paragraph. One of these arises from the separation of ownership and control discussed in Chapter Ten. Situations may and do arise in which corporation managers or directors enhance their personal gains by sacrificing the interest of the owners. Under such circumstances prices and profits can scarcely be said to direct the flow of production. A second exception is found in wartime. Indeed, the most significant difference between the working of the price system in normal times and in wartime is perhaps to be found here. A nation at war cannot depend on price and profits to determine what is to be produced. Authority must see that enough weapons are provided, enough army uniforms, enough food, enough ships. Production in some directions is restricted, in others expanded beyond the limits which would have been prescribed by the action of prices. Even in peace not all goods are produced by business enterprise operated for profit. The whole product of government agencies of every kind is turned out without thought of financial gain. If a government demands payment for particular products, as for postal service, the payment is not the inducement for the performance of the service, as is true in business, but is solely a means of meeting part or all of the necessary costs. The government maintains and expects to maintain thousands of unprofitable post offices. Like the government, many endowed or voluntarily supported institutions, such as universities and churches, produce services without regard to commercial considerations. In all this class of undertakings, production evidently is not directed by price. Notwithstanding these important exceptions, the greater part of the production in a society like ours is carried on by businessmen in pursuit of profit, under the direction of prices. Such is the nature of capitalism.

Summary: Capitalism and Prices

Of the four functions of price above enumerated, the first and second, namely, the cutting down of consumption and the affording of free choice to consumers, might and probably would be performed also by prices under a scheme of socialism. They are, indeed, thus performed today in Soviet Russia,

where people get a large part of their income in the form of money, which they spend as they please. However, the effective direction of production and the distribution of the product through the controlling influence of prices, as we know such direction and distribution, are peculiar to our existing organization. The basis of capitalism as we have known it is that the direction of production shall be left to the decision of private individuals, guided by prices. If such decisions are made otherwise—by public authorities, for example—or if private activity is not guided primarily by the prices to be given and received, then the economic system is not essentially the capitalism we have known historically. Similarly, if incomes are not determined by the working of prices in the ordinary operation of the business machinery in the pursuit of gain—if wages are fixed by public authority or if rents are determined by law, to suggest examples—then once more we have something that is not a part of capitalism, and that in so far is not consistent with it.

In actual fact, prices have never been allowed to perform these functions without let or hindrance. A system of complete laissez faire has never existed, and recent experience has led in all countries to increasing state interference with this so-called automatic working of prices. The present generation is witness to the fact that a gigantic shift of production and modification of consumption can be accomplished within the framework of the capitalistic system by means other than the price system, without destroying capitalism. Our wartime years afford an example of an economy of private enterprise and private profits in which, for a considerable period, price ceased to be the arbiter of production and consumption. Yet, in countries like the United States, Great Britain, and the British Dominions, prices with the qualifications above suggested are still performing mighty tasks. In order to understand the economic life within these great capitalistic states, that is, our own economic life, it is necessary to understand how prices are determined and how they determine production and consumption. The chapters which follow attempt to explain the basic principles at work.

CHAPTER TWELVE

Individual Demand

THE word "value" is one of the most important and most abused words in the economic vocabulary. The *use value* of anything is its utility, its power to satisfy a want. Its use value constitutes the basis of its *exchange value*, by which we mean the quantity of other goods for which it will exchange. Ordinarily, when the word "value" is used alone, it refers to exchange value. The *price* of anything is its value expressed in terms of money. The use value of a suit is its capacity to satisfy its owner's desire for clothing. Its exchange value may be three pairs of shoes or twenty bushels of potatoes or fifty movie tickets or what not; its price, forty dollars. Prices afford a convenient means of comparing the values of all sorts of things, and in a money economy like ours thinking runs in terms of prices. But value is the underlying fact. If I am earning eight dollars a day, and spend four dollars for a pair of shoes and a dollar to see a ball game, I show that I am willing to give at least half a day of my work for the shoes and a quarter as much for the ball game. It is values *to me* that are compared.

A good deal of misdirected energy has been spent in elaborating the difference between value and price. The distinction needs to be grasped clearly, but for ordinary practical purposes the terms are not infrequently used synonymously. If all prices should exactly double overnight, a moment's reflection will show that the value of everything except money would remain unchanged. Though the suit of our example above now sells for eighty dollars, it will still exchange for three pairs of shoes or twenty bushels of potatoes or fifty movie tickets, as the prices of the other things too have doubled. Since it costs twice as much to buy anything, the value of money has evidently fallen by half. Except in relation to money, however, the value of everything else is exactly the same as before. In a price-controlled economy like ours, changes in prices due to changes in the value of money have highly important results, to be examined later. For the present we disregard such considerations and assume an unchanged value of money. Accordingly, throughout the present section on value we shall regard the value of money as unchanging and use the terms "value" and "price" indiscriminately. No confusion need arise if the simple definitions of the first paragraph are clearly grasped and constantly borne in mind.

The most frequent statement about prices is that they depend on demand and supply. This common-sense explanation of price-making is correct enough and is highly useful if the terms are correctly defined, but ordinarily the statement means almost nothing. Of course, everybody knows that if more goods of a certain kind are offered for sale or fewer goods are wanted, prices fall, while if fewer goods are offered for sale or more are wanted, prices rise. This seems about all the ordinary reference to demand and supply means. But, aside from price movements, why are prices what they are? Why does a lead pencil sell for a nickel and a good cut of porterhouse steak for 70 cents a pound, a popular-priced automobile for $800, a large diamond for $100,000, a loaf of bread for 14 cents, an acre of land in a good Iowa farm for $150 and an acre in Chicago for $5,000,000, a day's work of an unskilled laboror for $5 and a day's work of a high-grade lawyer for $1000—all at one and the same time? The easy phrase "demand and supply" does not really answer these questions at all.

If pressed for an explanation which goes further than the mere statement that demand and supply determine price, the man of affairs would probably suggest that value depends on the cost of production of the commodity. Yet no one can get a dollar for a bushel of wheat *because* it cost him a dollar to grow it, as the farmers of the world learned to their sorrow during the thirties. At the low point of the depression they were able to get some thirty-odd cents, because that was all that the people of the world were able and willing to pay for the great quantities available. It made no difference what it had cost; it had to sell for what it would bring. On the other hand, the producer of a novelty that catches the popular fancy may find himself able to turn out half a million at a cost of two cents apiece and to sell them at a dime. The cost of production does not fix the price. The goods are worth a dime because the goods satisfy a want, though it be a trifling one, and consumers will pay a dime for them. But suppose that the manufacturer has guessed wrong, and nobody is interested to buy his gadgets at any price. Though he has spent ten thousand dollars making them, they are not worth a cent, because nobody wants them. To multiply illustrations is needless. Products have value because people want them or can be taught by advertising and salesmanship to want them. Because people want them and will pay for them other people produce them, and in the process incur costs that they hope will be reimbursed with a profit out of the prices at which they sell. Costs proceed from value, and the incurring of costs proceeds from anticipated value—not the reverse. Cost what it may, nothing has any value unless somebody wants it. Further, if things are wanted, they may have value, though they have cost nothing to produce. Neither the acre of Iowa land nor that in Chicago cost anything to

produce. Both alike were free gifts of nature. One sells for $150, the other for $5,000,000, because of differences in men's wants for them, differences in the uses they are able to make of the two acres.

The Basis of Value

The indispensable element of value, therefore, is not cost but utility, the capacity of a good to satisfy somebody's want. Without utility there is no demand, and therefore no value. The want may be a good one or a bad one from the standpoint of moral or aesthetic judgment. It may be a want for a beautiful picture or for a habit-forming drug. No matter what the character of the want, anything which gratifies it has utility as the economist uses the word. As was explained in Chapter Two, it is the service rendered by the material good which gratifies the want, just as does the service rendered by the physician, the actor, the clerk in the department store. Both material goods and personal services, being able to satisfy wants, have utility and may have value.

The utility of goods is by no means wholly a matter of their physical characteristics. It depends chiefly on the characteristics and knowledge of men. To a man who does not enjoy flowers a garden has no utility. If all men were like him, gardeners could not make a living. To certain African tribes nose rings have a high utility; to Americans they have none, except as curiosities. In the early days of modern steelmaking high phosphorus ores had no utility, because no one knew how to use them. With the progress of steel technology they came to have utility and value. The progress of science and its application to industry are constantly creating new utilities and conferring additional utilities on things already useful. Utility, present or prospective, is the one essential quality without which value could not exist.

Utility alone, however, as we learned in Chapter Two, does not give value. Some of the most useful things in the world are worth nothing, economically speaking, because everybody has all he wants of them. Though life could not exist without air, it is not scarce in the sense that the gratification of some want depends on each unit of the known quantity existing. Consequently no one economizes in its use and it has no value. By contrast, look at wheat, even when it was selling at the ruinous price of thirty cents as a result of so-called overproduction. Suppose that under those circumstances you had burned down a small granary containing only ten thousand bushels among the billions that are produced in the world annually. As a result, somebody who would otherwise have used wheat would have gone without it. The price of thirty cents reflected the judgment of the market that soon or late someone could be found to give as much as thirty cents for every bushel. The satis-

faction of some want was dependent on the existence of every bushel; and if a single bushel was destroyed, that want went unsatisfied or was less adequately satisfied. The same thing is true of every commodity that commands a price. It has value because it exists in quantities less than people would be glad to have if they could get it for nothing. This is what we mean when we say that it is limited in supply, or that it is scarce. Utility and scarcity are thus the essentials of value. Whatever has utility and is scarce commands a price. How is the price determined?

Marginal Utility

The demand for any good expresses itself in the market in the form of money offers for it. What any particular buyer would be willing to give for a particular good evidently depends on how much he wants it and on how much money he has. In other words, it depends on the utility of the good to the buyer and on his purchasing power.

An examination of our individual valuations and the way they work may help us to understand the relation between utility and our purchases, or utility and price. A small boy is delighted with his first bicycle, a birthday present from his father. Later in the day the expressman arrives with a second and an identical wheel; in the evening an uncle appears with a third. Though his joy over the first is unbounded, the second elicits no enthusiasm, and at the appearance of the third he is unable to show the slightest gratitude. The college student with no fountain pen will unhesitatingly spend five dollars for one in his first week at college; but if he comes provided with a new and thoroughly satisfactory pen, even though a second would undoubtedly be a convenience, he does not buy it until he discovers that pens are marked down and he can duplicate his for three dollars. The second provides him with a "spare" if the first suddenly fails him, but it is only when it can be obtained for less than the first one that he makes the purchase. Emergency protection he does not value as highly as the services which a first pen yields. The family with no coal in the cellar derives satisfaction from a delivery of five tons; their provident neighbors, with twenty tons already stored, have small interest in another five. From our homely illustrations we can draw a general principle of importance. The value we place on a good is the utility not of total amounts but of units of the good, and that value depends on the amount we consider it desirable to have and the amount we already have. One fountain pen is essential for college work; a second is desirable, but it will not bring to its owner the same amount of satisfaction that the acquisition of the first brought. The first bicycle bestowed great joy; the third threatened to be a nuisance.

We begin to appreciate that what we are really interested in is the amount of utility we add to the total utility of a stock of goods which we already possess, by acquiring an additional unit. This is the utility against which we compare the price. This we call marginal utility. The family with twenty tons of coal, by acquiring an additional ton, adds some utility—marginal utility. The tons of coal are identical. Once this last ton is added it cannot be distinguished from any other ton. The utility added is therefore the marginal utility of a stock of twenty-one tons. Reverse the situation. A thief steals one of the twenty tons. The marginal utility of a stock of nineteen is greater than that of a stock of twenty or of twenty-one. The definition we drew from our examples can now be somewhat expanded: marginal utility is determined by the change in the total utility of a stock of goods brought about by adding or subtracting a unit of the good. The amount of the change determines the marginal utility of the stock. Beyond a certain size, the larger the stock the less the marginal utility of the stock. It follows that as units of a good are acquired the marginal utility declines. In everyday language, the more we have of anything the less a little more of it is worth. In economic terms this is the law of diminishing marginal utility. Formally stated, the satisfaction derived from a unit of a stock of goods declines as the size of the stock increases.

The declining marginal utility of a particular good with the increase of the stock of the good explains why consumers do not extend their purchase much further than they do. The student who declined to pay five dollars for a second pen did not do so because he did not have five dollars. He did not do so because the pen had no marginal utility for him, but because the satisfaction which it would bring was less than that which could be derived from some other purchase. We seldom carry our purchases to the point where an added unit of the good would bring no satisfaction, but shift our spending at the point where the same amount of money will bring greater marginal utility if spent for something else.

There are implied here two applications of the idea of marginal utility, both of them of importance in the explanation of demand: the first, that of the declining marginal utility of identical units of a stock of goods as the amount possessed increases; the second, that of the varying marginal utilities of units of different goods, and the attempt on the part of a consumer—consciously, or more frequently unconsciously—to compare these utilities and to expend his money for those goods which possess the greatest marginal utility for him.

The important application of all this to the demand of the individual is that the price he will pay for any number of units of a good (all of them, be it noted, to be sold at the same price) is limited by the money value he puts on the marginal utility of that number. When a consumer buys more than a

single unit of any article, it is the marginal utility of the number he buys that sets the limit of price he will pay. This is not to assert that marginal utility can be measured by money but that marginal utility is expressed in the market by means of money.

Individual Demand

Individual demand is the foundation of market demand, which is the actual basis of prices. Market demand we shall examine later. The demand of an individual (often the buyer for a family) for any good is the quantity or quantities of that good that he would be willing to buy, at or during any given time, at all the prices at which he would make any purchase. This conception of demand is highly important. Unless it is clearly grasped, there can be no real understanding of how prices are determined. It is entirely different from the ordinary notion that the demand of an individual is simply the amount he buys. The following illustrations are designed to aid in making the idea clear and definite.

Case I · Suppose that a thrifty housewife, Mrs. Adams, goes to market on a spring day. As a welcome variant from what they have been eating, she thinks that she will get for her small family a single box (and no more) of strawberries, if it does not cost more than 35 cents. Otherwise she will feed the family on bread pudding and have her money for something else the next day. Her demand for strawberries on this day is evidently a demand for one box at 35 cents or any lower price, and none at any price above that figure. Thirty-five cents represents the marginal utility of one quart of strawberries to this family. If it proves necessary to spend more, there are alternative commodities which it prefers. Putting the facts in the form of what is called a demand schedule, we have the following:

Individual-Demand Schedule for Strawberries

PRICE (IN CENTS)	QUANTITY (IN BOXES)
45	0
40	0
35	1
30	1
25	1
20	1

This schedule evidently pictures not what this possible buyer actually does in the market, but what she would be willing to do under these circumstances. A complete and accurate statement of her demand, plainly enough, is not simply that it is a demand for one box at 35 cents, but, as stated above, for one box

at 35 cents *or any lower price*, and for *none at any higher price*. Suppose it turns out that the price is 25 cents. She takes her single box and goes home in triumph, glad that she has saved a dime of what she was willing to pay, but buying only a single box nonetheless.

Case II · Suppose that under exactly the same circumstances she finds, on getting to the market, that the fruit-seller is asking 40 cents for his berries, or 50 cents, or any other price above 35 cents. She will keep her money in her purse, and her family will soberly eat bread pudding for dinner. The central point to be noted is that her demand for strawberries, in the sense in which we use the term "demand," is exactly the same under both circumstances. True, in the one instance she buys a box, and in the other she buys none, but in the second instance, exactly as in the first, her demand is for one box at 35 cents, or any lower price, and for none at any higher price. It is a difference in the price prevailing in the market that causes a change in her action. As we shall see in due time, it is in the sense of the quantities that the buyer would take at all the various possible prices that demand is important for determination of price.

Case III · Change the demand assumption slightly. Suppose that our housekeeper goes to market, as before, with no thought of buying more than a single box of berries, which she plans to serve with cream. On arrival, however, she discovers to her astonishment that unexpected shipments have suddenly brought the price down to 15 cents. She at once conceives the idea of using a second box to make a shortcake for tomorrow's dinner—a thing she had not thought of doing, having no idea that berries would be as cheap as 15 cents. Her demand, in fact, turns out to be, not for a single box at any price not higher than 35 cents, but for two boxes at 15 cents or less (assuming that two is all she will buy no matter how low the price), for one box at any price above 15 cents and not above 35, and for none at any higher price. That is, the addition of a second box will bring added (marginal) utility, represented to her by 15 cents. Her demand schedule runs thus:

Individual-Demand Schedule

PRICE (IN CENTS)	QUANTITY (IN BOXES)
45	0
40	0
35	1
30	1
25	1
20	1
15	2
10	2

The difference between this situation and the first two is simply that, without having thought about it, our shopper is actually willing to pay as much as 15 cents for a second box, while in the first and second instances no price would have induced her to buy more than a single box. Her demand actually differs from that first assumed, and it is because her demand differs, and not because the price differs, that she now buys two boxes instead of one. Under the demand conditions of Cases I and II, at 15 cents she would have bought one box and only one. Under the conditions of Case III she buys two boxes for 30 cents (a nickel less than she was prepared to pay for one) and goes home with a nickel in her purse.

Case IV · Suppose she goes to market with a definite idea that she will buy a box if she can get it for 35 cents, and that if the berries are as cheap as 15 cents she will buy two boxes but no more. Her demand here is exactly the same as in Case III. Suppose that the actual price turns out to be a quarter. She will buy one box, precisely as in Case I, though her demand is the same as in Case III, where under other price conditions she bought two boxes.

Case V · Suppose that with her demand the same as in Cases III and IV she finds berries actually offered at 40 cents. Just as in Case II, she will close her purse and go home to make a bread pudding, though her demand is the same as in Case III, where she bought two boxes, and in Case IV, where she bought one, and is greater than in Case I, where also she bought one box.

These simple examples illustrate under differing circumstances the sense in which we use the term "individual demand," namely, the quantities that an individual would take at all the various possible prices.

If the word is restricted to this meaning, it is clear that price does not account for demand but for amount purchased. In fact, it is impossible to state a demand without attaching a price to each amount which might be bought. There are a few people in the world so overendowed with purchasing power as to be able to buy, no matter what the price, but they do not provide the customary practices on which economic explanations must rest. Demand, thus defined, is made up of a series of conditional statements: if the price is 15 cents, this buyer will take three articles; if 20 cents, one; if 25 cents, he makes no purchase and drops out of the market. An increase in price does not reduce the demand but the amount purchased. An increase in demand can mean only that at the same price more will be purchased or that the purchasers will buy at higher prices the same number that before they were buying at lower

prices. A decrease means that at the same series of prices fewer purchases will be made. For explanation of such changes in demand we must not look to prices but to other influences.

Changes in Wants and in Demand

Utility is not a quality inherent in a good but results from the existence of wants for the good. Every change in a man's wants changes the satisfaction some goods will bring him, his willingness to pay for goods, and consequently his demand for them. Wants may be changed by an almost infinite variety of causes. Every change in a man's circumstances means a change in his wants. He marries, and wants the furnishings of a house. He is invited for the first time in his life to play golf, and he returns home with a brand-new want for golf clubs and balls. He is run over by a train and wants a wooden leg. Changes in the social standards of the group to which he belongs may change his wants strikingly. His home must be correctly furnished; he and his family must be properly dressed; they must do the right things and have the right equipment at the club or the beach or the resort. Next year fashions have changed in many of these particulars, and his wants (more accurately, his wife's in most families) have changed with them. The constant development (and in many particulars the progress) of the physical technique of living continually changes his wants. Witness the houses or the clothes of today in comparison with those of the eighties. Think of the telephone, the automobile, the radio, the thousand and one articles of everyday use that did not exist half a century ago. The whole aim of advertising is to change wants, partly by creating new or more intense ones, partly by shifting wants to the products of the advertiser rather than those of his competitors. It is sometimes astoundingly successful. The growth of wants offers a fascinating field for study, to which every student could make contributions from his personal experience. They underlie our demand schedules and find expression in the market by purchases, at the prices we are willing to pay.

Each man's wants constitute a complex and interrelated system, constantly changing in detail and sometimes in its major features. No one in his senses would picture a normal human being going about carefully weighing marginal utilities in his mind, one against another, but everyone would recognize that all persons, except the most reckless or the completely irrational, do give some attention to the way they spread their income; and the moment one possible expenditure is compared with another, at that moment a comparison of utilities takes place.

The selecting process is largely unconscious and habitual, but not infre-

quently, especially with the larger and more important purchases, it becomes a conscious and well-considered choice. The wife of a workingman who counts on $30 a week for her household expenses divides up her budget week after week and year after year without much realization that she is trying to get the maximum satisfaction possible out of her slender resources. Probably most of the expenditures have become habitual; yet the element of choice is never absent. The substance of her morning's marketing is—what things are cheapest, and how can she get the most for her money? The dressing of her children, the getting and maintaining of the necessary household furnishings, the provision of recreation and amusements out of the small amounts she can allow for those purposes, the payment week by week of trifling sums for burial insurance or other provision for the future—all her activities in spending the family income constitute a task of astonishing complexity in this process of getting the most for her money. And who does not know the consideration and discussion that are given to the larger expenditures of the ordinary family: the new furniture, the car, the radio, the summer's travel, all the things that are bought only occasionally? While we cannot think of people as calculating machines forever figuring out rationally how to maximize their satisfactions, yet we do know that ordinary human beings, without thinking too much about it, spend their money in the ways that they think will yield the most for that money. The demand for goods in the United States in the present year must thus be thought of as resting on the infinitely various wants of a hundred and forty million individuals, each able to make his wants effective in the market just to the extent that he is able to back them up with money. In such fashion do wants provide the basis of demand. To the influences which determine these wants we shall revert in Chapter Thirty. Here we are concerned not with the determination of wants but with the effect of their expression in the market.

Purchasing Power and Demand

If a man's wants determine his willingness to pay for goods, his purchasing power determines his ability to do so. That is to say, his demand depends on his wants plus his purchasing power. Wants without purchasing power do not create demand. A poor young clerk intensely wants a showy diamond for his fiancée, but cannot by any possibility think of putting up more than twenty-five dollars for such a gift. A rich woman, on the other hand, thinks that such a ring would make a suitable birthday gift for a favorite niece, and is prepared to pay five thousand dollars for it if necessary. The want of the young man is probably more intense than that of the rich woman. His lack

of money makes his demand less than hers. A penniless, unemployed man, half starved, intensely wants food. He creates no demand whatever for it, because he has no purchasing power. Always the wants of a rich man are more important in creating demand than those of a poor one, because the former has the money to back them up. It will be observed that demand affords no means of comparing the importance of the wants of different people, except as this importance is expressed in the market. There a thousand dollars' worth of diamonds are worth a thousand dollars' worth of bread; though the bread might feed a dozen families for a year, while the diamonds might never do anything more important than gratify a desire for ornament or display.

The purchasing power of an individual depends on his money income. It changes because of changes in his income. A clerk in a chain grocery has been getting $28 a week. He is raised to $30. His wants are unchanged, but he has $2 a week more to spend than before. Perhaps the family will have a little more varied food, or will spend a bit more on clothing to outshine the neighbors. More probably they will buy a long-desired radio on installments, and will find their monthly electric bill a little higher in consequence. Also, from time to time they will have to spend certain amounts for tubes, repairs, and services. Whatever the new things they buy, the family's demand for goods has been increased by their increased income without any change in their wants. On the other hand, a prosperous young bond salesman was making $15,000 a year at the height of the boom in 1929. He spent practically all of it in a pleasant suburban town, with a fine house, a new car every year, membership in two or three good clubs, and plenty of fine clothes for the whole family. A year or two after the boom collapsed he was getting practically no commissions, and his income had all but ceased. The wants of his family and himself were essentially the same as two years earlier; but their former generous demand for goods of all kinds now approached the vanishing point, except as they could still command credit or as relatives and friends somehow furnished them with resources. Thus demand may increase or decrease with change in income without changes in wants.

We thus observe that the demand of an individual for any good, be it an overcoat or flour or music or books, in the sense in which we have defined demand, depends on two things and two only, his wants and his purchasing power; and purchasing power depends on income. If we knew the facts we could set forth his demand in the form of a series of demand schedules covering all the goods he might possibly buy. Given the demand schedule and also the prices of the goods prevailing in the market, we could determine the amounts of the various goods he would actually buy. Our interest at this

point, however, is not in how much he actually does buy, but in how much he would be willing to buy at the various possible prices. That is to say, we are interested in his demand, not in his purchases, for it is demand that counts in the market where prices are made. In passing over to market demand, we must remember that it embraces the total not only of individual but of institutional demand as well. Colleges as well as private families demand food; hospitals need supplies of all sorts; governments buy furniture in the market and thus affect the total demand. The market demand for flour embraces not only the demand of all the bakers and the families in the country, but the demand of public and private institutions as well.

CHAPTER THIRTEEN

Market Demand

What Is a Market?

WE ARE now in a position to pass from individual to market demand, and thence to price. First of all, what is a market? In Chapters Eleven and Twelve we have referred frequently to a market, with no attempt to determine what we mean by the word. It has commonly been defined as a body of buyers and sellers in such intimate relations with one another that a single price prevails among the whole group. This definition assumes that conditions of perfect competition prevail throughout the market, an assumption far from reality in so large a proportion of buying and selling that the definition itself might better read: "the term 'market' is commonly applied to the meetings of buyers and sellers which establish prices." These meetings, which are usually not physical encounters, though of course they sometimes are, may bring into existence a single price; they may fail to do this. In either event market forces are at work. Given the former result, we say that we have a perfect market; the latter, and we say that the market is imperfect.

It is to be observed that we have avoided the word "place." A market, as the economist uses the term, is not a physical place; it is not a geographical term. We refer to a world market for wheat, by which we mean that Chicago, Winnipeg, Buenos Aires, Liverpool, Odessa, Melbourne, Calcutta, and all the other wheat markets of the world, big and little, together with the tens of thousands of retail grain-buyers and tens of millions of commercial wheat-growers in five continents, are bound together with such a network of transportation and communication that we have a single market. If the system worked perfectly we should have a single price, allowance being made, of course, for costs of transportation. The price in a small prairie town in Minnesota would differ from that in Chicago only by the cost of transportation and handling. Liverpool and Chicago prices would be higher than those of Winnipeg only by the cost of moving wheat from the Canadian city to those markets. But the system does not work perfectly. The essential unity of the wheat market is deliberately interfered with by governments, which try, by means of customs duties, quotas, and sometimes by outright prohibitions, to

keep their own markets for their own farmers and thus to give them higher prices. In addition to such artificial restrictions on the perfect working of the marketing process, there are many other frictions. Communication may fail or lag, grading of wheat may be imperfect, sudden increases in demand in some areas may find transportation unequal to the task of relieving the scarcity quickly. Even so, the world wheat market remains. A cabled report of a heavy drought in Argentina or Australia will raise wheat prices the next day on the Chicago Board of Trade, or on the Liverpool market, and in the office of the local grain-buyer at Spirit Lake, Minnesota. The world's peace-time wheat crop, so far as it is bought and sold, goes year by year into a single market, and prices all over the world are subjected to the same influences. In normal times the small miller in northern Germany who buys a few loads of local wheat from a neighboring farmer pays a price in the making of which the Peace Valley and the Dakotas and Australia and Russia and India and London and Paris have all had a part. They are all tied together in a network of buying and selling that keeps wheat prices the world over in a series of more or less definite relations one with another.

There are world markets for many commodities: cotton, wool, and various other textile fibers; copper, tin, and sundry other metals; sugar, rubber, and most of the things that enter extensively into international trade. The one thing essential is the tying together of buyers and sellers, always more or less imperfectly, by means of mails, telephone and telegraph lines, cable and radio communication, railroads, steamships, and airlines, into a single unit among whose various parts there is a rapid interchange of information and a dependable movement of goods.

At the other extreme from the world market is the narrowly local one. A person may buy certain goods in a Fifth Avenue shop at a high price. He may walk a block west, if he knows enough, and buy the same goods on Sixth Avenue for one-fourth less. Here we have a market so imperfect that many writers prefer to say that we have not one market but two, within a stone's throw of each other yet to all intents and purposes completely isolated and not affecting each other, with different buyers, different sellers, different prices. The explanation of this particular failure to reach a common price is to be found largely in the fact that the Fifth Avenue buyers are buying more than the specific good. They pay for and are willing to pay for the convenience of shopping where they have always shopped, or where they receive an obsequious service, in surroundings which please them. Most of all, they pay for prestige and atmosphere. Despite these differences in the product sold, many of the same influences are at work on the two prices, and we may regard this as an illustration of a highly imperfect market, though granting that it could be

maintained that there are here two markets. Many forces are at work within markets, whether they be markets including wide areas or those purely local, which prevent the making of a single price and allow for a certain differentiation among customers.

We have assumed without discussion that by one price we mean one price for the same commodity, but the moment we try to define "commodity" and determine what we mean by "the same commodity" we encounter trouble. Actually the single price can work out only for goods which can be perfectly standardized and graded. Wheat may be reduced to standard grades; one share of steel common is exactly like another; but many articles defy standardization, and so long as there are variations in the articles sold the market is a more or less imperfect one. The familiar "discount for cash" is a simple illustration of a large group of price adjustments which can be used to make difficult the price comparisons which are essential if the market process is to arrive at one price. In fact, credit terms offer infinite possibilities for concealed price variations. Or the same seller may sell, in what might seem to be one market, at different prices to different groups of customers. Here, again, we might maintain that we have not one market but two or three, instead of regarding it as a single imperfect market as we have chosen to do. Retail dealers may be charged one price; wholesalers, a second; quantity consumers, still another; and consumers of small lots of the product a fourth. Sellers may even vary the price to consumers and users according to the purpose for which they buy the commodity. The complexities that prevent market adjustments from bringing a single price are by no means exhausted by these suggestions. Manipulation of freight and delivery charges, service charges of all sorts, payments for special labels, allowances to pay for advertising, are all obstacles to the working out of the single price in the perfect market. Steel prices illustrate pricing processes far removed from the concept of one price in one market. Certain specifications for steel sheets, chosen more or less arbitrarily, are designated as standard, and a price is set on this standard sheet. Extras, which may be the result of changes in thickness or in width or length, of additions to carbon or manganese, or of a vast number of other small details, add to the basic price. It may easily come about that during a considerable period no two steel orders go to customers at the same price in spite of the existence of a standard price. Many commodities never appear in anything that resembles the simple picture of the perfect market with the single price.

Even those markets usually chosen as types of the perfect market do not always produce the single price. Under ordinary circumstances the stock markets are perhaps the most perfectly organized markets in the world. At the post in the New York Stock Exchange where United States Steel stock is

sold, there is a constant matching of buying and selling orders from all over the country. The price gives instant response to the bids of all who want to sell and buy. But in times of sudden and violent changes—as at the worst of the crash in 1929, for example—the same stock may be selling at different prices within a few feet of each other. Brokers on one side of the post may be selling the stock at $140 a share on the order of distressed customers. At that very moment, on the other side of the post, other brokers, with like orders to sell at any price they can get, may be selling at $125. They are quite unconscious, in the hubbub and confusion, that a price fifteen points higher is being realized a few feet away in another part of the same physical group. There is a lack of the common information essential to buyers and sellers who are to make up a perfect market.

By contrast, a big fruit-and-vegetable market ordinarily has a considerable number of sellers whose produce varies more or less in quality and freshness. Though the goods differ, comparison on the part of buyers is so easy that substantial identity of prices for substantially identical goods is likely to be attained. Thus we have once more an example of a perfect market in the true sense—with its essential indication, the single price.

Markets, then, vary in geographical extent, from world markets to strictly local ones. They vary in the numbers of buyers and sellers. There may be a single seller in a market, as the one florist in a small town, or one general store at a remote country crossroads. There may be millions of sellers, as is true of the world's wheat-growers. There may be a single buyer, as the isolated cannery that furnishes the only outlet for the peas and sweet corn and tomatoes grown in its vicinity. There may be millions of buyers, as in the American cheap-car market. But in every market the forces of demand and supply are organized to bring about a single price or a variety of related prices, depending upon the smoothness of the working of competitive forces or the interferences with them.

Market Demand[1]

It is a comparatively simple matter to pass from individual demand, which we have already examined, to market demand. This is nothing more than the sum total of the individual demands of all the possible buyers in any market. Let us return to the market for strawberries in the town of X, a town already immortalized by the adventures of Mrs. Adams, the housewife who purchased strawberries. Let us assume once more that her demand is as in Case III.

[1]In the discussion of market demand we use the term "individual demand" to include both individual and institutional demand.

She will purchase one quart at any price between 15 and 35 cents, two quarts at 15 cents or less. On the same day five other housewives of this village buy strawberries. For this day and this market their demands constitute the market demand for strawberries. One of them, with a larger income than her neighbors, orders four boxes, no matter what the price; one will buy two boxes if the price is 20 cents or less. A third will take one if the price is 40 cents, three if it is 25 cents or less; the fourth will take two quarts if the price is not above 30 cents, four quarts if it is as low as 20 cents. The fifth shopper will take but one box at 35 cents; but should the price be as low as 15 cents, she will buy seven quarts. Observe that we as yet know nothing of the purchases of this group beyond the fact that one of them buys four boxes at any price. Even that statement undoubtedly needs to be qualified. No upper limit is stated because of the assumption that the price is most unlikely to approach her upper limit, not because she has none. What we know of these potential buyers is what they will do at specified prices. We can only know what they actually do by learning what market price they find prevailing. To account for the differences in their demands we should have to know something of their incomes, their liking for strawberries, the use which they make of them, the amount of fruit already on hand. Innumerable differences of personal taste and habit enter into the individual demand schedules which these figures express.

From these figures we easily construct a demand schedule for the village market. The total market demand is simply the sum of their individual demands. The figures are as follows:

Demand Schedule for Strawberries in X

PRICE (IN CENTS)	DEMAND (IN BOXES)						MARKET
	A	B	C	D	E	F	
45	0	4	0	0	0	0	4
40	0	4	0	1	0	0	5
35	1	4	0	1	0	1	7
30	1	4	0	1	2	1	9
25	1	4	0	3	2	1	11
20	1	4	2	3	4	1	15
15	2	4	2	3	4	7	22
10	2	4	2	3	4	7	22

The demand in this market is set forth in the figures of the last column—not in any particular figure, but in all the figures taken together. That demand does not depend on the price that actually prevails in the market, concerning which as yet we know nothing whatever. It rests simply on the wants and purchasing power of the potential buyers in the market. This use of the term "demand" may at first seem not to accord with ordinary business practice,

since the businessman often talks about stimulating demand by lowering prices. He really means that by lowering prices he may stimulate sales. The demand schedule is not changed; but, demand being what it is, he can sell more at a lower price. But he also uses the word "demand" in a completely different sense. He says that he hopes to increase demand by advertising. Here he contemplates an actual increase in the readiness of consumers to pay for goods, so that at any given price they will buy more goods. Such a change means a real increase in demand as we employ the term. The effect of the advertising has been to induce customers to buy more at the former price or perhaps the same amount at a higher price. The figures in the demand schedule would call for increase. The economist's use of the term "demand" is in accordance with the second business conception. He attempts to use the word consistently in this sense, and not to shift without notice to an entirely different meaning. It is only by adhering strictly to this interpretation of demand that we can put meaning into the useful demand-and-supply formula.

Few buyers have their ideas as clearly defined as those we have followed. Yet if the facts were known in the necessary detail the demand in the market could be stated, as has been done in the demand schedule set forth above, in perfectly definite terms of the exact amounts that all possible buyers would be willing to take at all prices. The intelligent reader will realize that a market-demand schedule like that here set down gives a spurious appearance of exact knowledge in a field where such knowledge is, in the nature of things, impossible. The schedule is a means of giving exactness to thought in dealing with data for the most part uncertain, and at best inadequately known. Nonetheless, a knowledge of those data is of the utmost importance to businessmen, as a guide to an intelligent and profitable production policy. They are forever trying to make the best judgment or the best guess they can at the facts of demand, both present and prospective, for their particular goods. The telephone company, for example, is said to try as far as possible to plan twenty-five years ahead. The program of every business has to be laid out in view of the possibilities of sales. That possibility is a question of demand, and of the demand at the various possible prices, that is, demand in the sense in which we have defined it. Shall the price of steel sheets be raised? It is a question of the purchase, at the present price and at a possible higher price. Is an expensive national advertising campaign in behalf of a special brand of shirts worth while? It depends on the existing facts of demand, and the manner in which demand might be changed by advertising. If anyone doubts the interest of the business community in learning everything possible about demand, he has only to look at the sums expended in so-called market research. Profitable sales are the end of business activity. Profitable sales call for

knowledge of possible markets. Though market demand can never be fully and definitely known, and though actual knowledge of demand, except over a narrow price range close to existing prices, is usually almost impossible to get, yet businessmen eagerly spend money to learn all they can about it. Such knowledge is often worth to them much more than it costs. We are dealing with considerations that are sometimes dismissed as theoretical. Like all important theoretical matters, they possess high practical significance.

Market Demand, Price, and Quantity Sold

In any given state of demand the quantity that can be sold at any given price is limited by the demand at that price, and, on the other hand, the price that can be realized for any given quantity is limited by the price at which the purchase will be of that magnitude. Thus, if fifteen boxes of strawberries come on the market, it is plain that they can be sold for 20 cents but not for 25, because at the higher price only eleven boxes will be taken. If, on the other hand, a price of 20 cents is put on berries, then fifteen boxes can be sold and no more, because only fifteen boxes are wanted at that price. It makes no difference whether we have one seller or several. A monopolist could not make the six women of our market pay 25 cents for fifteen boxes, nor could he sell them more than fifteen boxes at 20 cents. The market demand consists of a series of definite relationships between quantities and prices at which those quantities can be sold. Let the seller or sellers fix the amount they are going to sell; the buyers then decide what price they will pay for that amount. Let the sellers fix the price; the buyers then decide how great a quantity they will take at that price. The seller, though he be an absolute monopolist, cannot have it both ways. Always the buyer has the last word. If the student understands the nature of the facts set forth in the preceding discussion of demand, this will be clear.

Often, when people find it necessary to pay a higher price than they have been accustomed to give, they complain that they are "compelled" to pay such a price. In fact they prefer to pay the higher price rather than go without the goods. If they buy as large quantities as ever at the higher price, then they are disclosing that their demand for the goods in question is greater than they themselves perhaps had realized, and that they have been buying them habitually at a price below what at need they are willing to give. If, however, they find themselves content to get along with a smaller quantity at the higher price, then they are simply showing that their demand being what it is, their purchase at a higher price is less than at a lower one.

This leads us to ask why more will be sold at a lower price than at a higher

one. The answer is not as simple as, at first thought, it seems. To give it we must review much of the ground which we have already traveled. With the exception of the second, each of the housewives who together made the market demand of page 230 stood ready to increase her purchase at a lower price. One of them considered the marginal utility of a stock of two quarts sufficient to justify the expenditure of 30 cents a quart, but the marginal utility of a stock of four was less. A price of 20 cents would induce the larger purchase. Perhaps she would have made it had the price been 22 cents. Our figures fail to tell us what her action would have been at any price between 25 cents and 20 cents; they do tell us that she does not consider the marginal utility of a stock of four quarts of strawberries sufficient to justify purchase at 25 cents a quart. The housewife herself would probably say that she "could not afford four quarts at 30 cents," but she would not mean literally that she did not have $1.20 which she could spend for strawberries. She means that after spending 60 cents for strawberries she can procure greater marginal utility by spending the second 60 cents for something else. Though she never heard of the law of diminishing marginal utility, she is planning her purchases in accordance with it. The market result is that the lower the price the larger her purchase will be. In any market this will be true of numerous buyers. But this is not the whole story. A second influence contributes to the larger volume of sales at lower prices. This is the actual scarcity of purchasing power (income) in the hands of buyers. The fact that one buyer purchased berries only when the price reached 20 cents may indicate that though she enjoyed strawberries as much as her neighbors her income was more modest. At a lower price more purchasers are not only willing but able to buy. Thirdly, among this group of housewives shopping for their families there might have been one who cared little for strawberries and could be induced to purchase them only by a price which she regarded as a "bargain." The low price is necessary to bring her into the market as a buyer not because of diminishing marginal utility (she buys only one quart) but because even the first quart of strawberries has small power to bring her satisfaction. Here are three distinct though related reasons why a lower price at any given time and place brings a larger purchase: (1) there are some buyers to whom even the first unit of the commodity offers small utility; (2) larger stocks have smaller marginal utility; (3) no matter how intense the want, those consumers with small incomes cannot purchase as much at high prices as at low. Two of these relate to the utility of the good; one, to the purchasing power of the individual. Because larger sales at lower prices—the law of demand—may result from any of these influences, the producer needs to know the income of possible buyers, as well as their tastes, before he can forecast the demand for his product with any degree of accuracy.

The Marginal Buyer

Whatever the explanation, we note that two of the possible buyers will each buy two boxes more at 20 cents than at 25. They are what is called *marginal buyers* at 20 cents. This expression implies that at any higher price they will buy less—one, none at all instead of two; the other, two instead of four. Except for these four boxes, evidently, a rise in price to 25 cents would make no difference in possible sales, for the demand for the remaining eleven boxes is at prices of 25 cents or more, and all eleven would be taken just the same even if that price were asked. If fifteen boxes are to be sold, the price must be low enough (20 cents) to induce the third to buy her two boxes and the fifth her extra two; otherwise four boxes out of the fifteen will go unsold. Hence it is often said that the marginal buyer determines the price. He does not determine it any more than any other buyer. All six of the buyers together make possible a 20-cent price for fifteen boxes, but two make it impossible to sell fifteen boxes at 25 cents. In this sense only, as marginal buyers at a given price, can they be said to determine price. They might more accurately be said to limit it.

The marginal buyer is the only one who does not get a surplus of satisfaction, sometimes called consumer's rent, on his purchases. Thus, at the 20-cent strawberry price the first received a surplus satisfaction worth 15 cents to her, since she was willing if necessary to pay 35 cents for a box, while the second for 80 cents (20 cents a box) bought four boxes for which she might have been willing to pay $4 or more, for all we know to the contrary. The fourth shopper had a 20-cent surplus on one box and a 5-cent surplus on each of the other two she bought, and the last one was 15 cents ahead on the one box for which she would have been willing to give 35 cents. Even one of the marginal buyers (of two boxes at 20 cents), it should be noted, gets a surplus of 10 cents each on her other two boxes, for which she was willing to pay 30 cents. A considerable part of the goods sold in a market at any price, it thus appears, and not infrequently the overwhelming proportion of them, are sold at prices below those which the buyers would be willing to pay if necessary, the difference in each particular instance measuring the consumer's surplus. In the example of the 20-cent strawberries, such a surplus arose on eleven of the fifteen boxes sold (all, that is, except the marginal purchases).

It is the existence of this surplus that makes possible the sale of smaller amounts at higher prices. Suppose, in any given state of demand, the price rises. Marginal purchases are cut off, and the consumer's surplus on the purchases still made is reduced; but so long as any buyer is getting any surplus on any part of what he buys, so long the price might rise yet higher without

entirely cutting off sales. The reader perhaps will realize better how far-reaching the principle is if he tries to think how much he would give for almost any article of common use rather than go without it entirely, and then to compare that sum with the actual price; for example, a lead pencil, a pair of shoes, any favorite article of food, electric light and telephone, a cake of soap, a handkerchief. This is simply to say that at existing prices most of us are not marginal buyers of a large part of the things for which we actually spend our money. Let the price of an ordinary lead pencil go up to a dime. We still would buy it, and go without something else costing a nickel.

Elasticity of Demand

We have made no attempt thus far to consider whether the variations in the prices of different goods will always produce similar changes in their purchase. If we had formulated demand schedules for milk for our six housekeepers, would they have resembled those for strawberries? Or should we find that changes in the price of milk made small difference in the amount of milk purchased? Does a small change in the price of some goods bring a relatively large change in the amount purchased, while with others does a large change in price produce a slight change in the amount of the purchase? This response of purchase to variations in price is called elasticity of demand. That changes in price affect the volume of purchases differently for different commodities is a matter of everyday experience. It is also a matter of great significance in price-making. Lowered prices will bring more sales, but how many more? Theoretically we may assume an extreme situation in which a change in price would bring no change whatever in the amount purchased. Demand is completely inelastic. At the other extreme the smallest imaginable increase in price would reduce the purchase to zero. Demand is completely elastic. In between these two possibilities we may construct a demand schedule in which a price change brings about a compensating change in purchase of such an amount that the total expenditure for the commodity remains unchanged. This we call unit elasticity. If the price change brings about a more than compensating change in purchase, so that the total expenditure increases as the price rises (or decreases as the price falls), then the demand is said to be relatively inelastic. Conversely, if the total expenditure falls as the price rises or rises as the price falls, the demand is relatively elastic.[2] This is a matter of much practical importance to the businessman.

[2]Elasticity is a concept of mathematics, and students with mathematical interests will find useful the treatment in A. M. McIsaac and J. G. Smith, *Introduction to Economic Analysis*, pp. 81–84.

Family-Demand Schedules

SALT			COFFEE			PEACHES		
Price	Boxes	Expenditure	Price	Pounds	Expenditure	Price	Dozen	Expenditure
25¢	6	$1.50	75¢	8	$6.00	40¢	0	
20	6	1.20	65	8	5.20	30	3	$.90
15	6	.90	40	9	3.60	25	5	1.25
10	6	.60	30	10	3.00	20	8	1.60
5	6	.30	18	10	1.80	15	12	1.80

In the table above examine the three hypothetical schedules representing the assumed demand of a family for three ordinary food commodities during a year. The assumption is that if the price during the year were any one of those indicated, the quantity purchased would be that set opposite the price, but the figures tell us nothing about the price that actually prevails or the quantities actually bought. No matter what the price, our family would buy six boxes of salt. Its demand for salt is absolutely inelastic. No change in price within the price range considered changes the amount of the purchase. Of coffee it would buy just as much at the moderate price of 30 cents as if the price were at the very low point of 18 cents, and even if it stood at the extraordinary figure of 75 cents this family, on the basis of our assumptions, would buy nearly as much as at any lower price. With each increase in price the total expenditure of the family for coffee increases. By the test suggested above, its demand for coffee is relatively inelastic. On the other hand, with every assumed increase in price the expenditure for peaches declines. The demand is relatively elastic. Modify the hypothetical demand of our hypothetical family for coffee by reducing its purchase at 65 cents to five pounds and at 75 cents to three pounds—by no means unreasonable assumptions. Under these conditions the total expenditure for coffee at 40 cents would be $3.60; at 65 cents, $3.25; at 75 cents, $2.25. Total expenditure when the price is above 40 cents declines as price increases. A demand which in its lower price range is inelastic becomes elastic when the prices involved are higher.

Suppose the demand schedule for peaches had shown that at 45 cents two dozen would be purchased, at 30 cents three, at 22½ cents four, at 18 cents five. At every one of these prices the total expenditure is 90 cents. This conforms to our definition of unit elasticity.

Conditions of Elastic and Inelastic Demand

The demand for salt for cooking and flavoring in the ordinary household is, in fact, very inelastic. Salt is so cheap, and the total amount spent for it is so small, that it constitutes an insignificant item in the budget of even the

poorest family in this country. Further, there is no substitute for it, so that it has a high utility in the limited amounts that people want for domestic use, and almost everybody would be willing (and able) to pay extravagantly for it, if that were necessary. Practically everybody uses all the salt he wants without thought of its cost, and it is doubtful whether even a large change in the size of the package sold for ten cents would make the slightest difference in the quantity used in any household in the country. If some ingenious businessman, therefore, could monopolize the production of salt, as fortunately he cannot, he would find himself in possession of a veritable gold mine in the sale of salt for household use; for he could raise the price, probably to several times its present level, without reducing at all seriously the quantity he could sell.

By contrast, the demand for particular kinds of fruit is likely to be relatively elastic through the ordinary range of prices. One kind of fruit can be substituted for another; and if peaches are high, consumers will take pears and grapes instead, while a fall in the price of peaches will reduce the sale of pears and grapes. Peaches, that is to say, have to get themselves purchased in the market in competition with pears and grapes and plums and oranges and apples and melons, not to speak of the endless variety of decoctions that the soda fountain dispenses in the effort to attract the casual purchaser's nimble dime, instead of letting it go to the fruit store next door. With such a competition of commodities, the demand for peaches is elastic. Small changes in price are accompanied by considerable changes in the quantities that can be sold.

The importance of the power of substitution and the pervasiveness of such power need further illustration. It is a rare commodity for which there does not exist a possible substitute, more or less satisfactory. Pork and mutton may take the place of beef if beef prices go too high. Fish and eggs may be substituted for meats; cereals and vegetables for the entire array of animal products; potatoes for bread; ice cream for pie; and so on through the whole range of foods. The same thing holds true in clothing, in building materials, in house furnishings, in recreations, in almost all the enormous range of goods and services that are offered to the consumer in a society such as ours. Moreover, different grades and qualities of the same product are endless. Automobiles range all the way from the Mercedeses and Rolls-Royces and Lincolns down to the popular-priced new cars, and from them through all makes and ages of used cars down to the ancient wreck that can be bought for $25 and coaxed into giving its happy owner a certain amount of mileage on the highway. The more satisfactory the substitutes for a product the more elastic the demand for it, because a rise in its price will mean a prompt recourse to substitutes.

It is frequently observed that an increase in the price of one commodity which results in a smaller purchase may serve to create an increase in the demand for some substitute commodity. A high price for meat may increase the demand for fish.

The demand for luxuries is on the whole more elastic than that for the necessaries of life. Considerable variation in the price of bread is likely to make comparatively little difference in the amount eaten in well-to-do families. Higher prices for foodstuffs in general lead to some resort to cheaper foods, but only at the lower income levels will the amount of food consumption be noticeably cut. Most of us economize somewhere else. As regards the things that we consider luxuries, on the other hand, the question of whether and what we buy is likely to be almost wholly a matter of price. Lower the price of jewels and you widen the market. Increase the cost of theater tickets and the theaters are empty. Among groups where these are luxuries the demand for them is a relatively elastic demand.

On the other hand, the demand for any article of habitual use, be it a necessity or not, is likely to be relatively inelastic. The habitual smoker must have his cigarettes no matter whether the price rises or falls. He does not smoke more because they are cheap, or less because their price goes up. In fact, habituation imparts to almost any article of consumption an element of necessity that makes one's demand for it inelastic.

If the amount spent for any good constitutes an insignificant fraction in the budget of the families that use it, the demand for it is likely to be inelastic. This principle has already been suggested in respect to salt. It holds true with regard to many low-priced goods whose absolute cost is insignificant, even to poor people. The demand of rich families for a large part of the goods they ordinarily consume is likely to be distinctly inelastic, because they have so much money that they obtain all they want of most ordinary things, buying no more because the goods are cheap and no less because they are dear. The demand for the same goods by a family of modest income may be highly elastic. Here the price of the goods may constitute an appreciable drain on the purse, and the goods may be looked on as luxuries. The demand of a rich family for fruits out of season may be almost entirely inelastic; they may enjoy what they please of such products irrespective of price. The question whether their poorer neighbor will indulge, on the other hand, may depend wholly on the price. This explains why market research is often directed to discovering the income groups in which purchasers of a particular good belong. It also implies that elasticity of demand for many commodities would not be the same in periods of prosperity as in periods of depression.

As a matter of fact, we know very little about the actual demand for most

commodities outside a very narrow range of prices, and can therefore say little that is definite about elasticity. Nevertheless, such knowledge is highly important to the businessman. If demand is relatively elastic, then price reduction is likely to increase sales to such an extent that total profit on the entire volume of business is increased, though profit per unit sold is lessened. If demand is inelastic, then the businessman may lose money by lowering prices, for he will reduce his profit on each unit sold without gaining any compensating increase in the volume of goods sold. Elasticity of demand thus makes for lower prices. But lack of knowledge about the demand at prices markedly below those commonly prevailing may keep prices at a level much higher than would be advantageous to business itself. Until Henry Ford demonstrated the possibilities, almost nobody dreamed of the possible sale for automobiles at low prices. At the present time we in the United States are just beginning to understand how elastic is the demand for electric power. At rates far below those customary in this country sales might be enormously increased. As that knowledge spreads, not only is the Federal government pushing a policy of cheap power that promises to revolutionize living and working conditions but the private power companies themselves are beginning a series of experiments with rates that only a few years ago they would have declared impossible.

Demand the Ultimate Basis of Price

Throughout the preceding discussion attention has been confined wholly to demand. The purpose has been to emphasize the fact, too often neglected or forgotten, that demand is the ultimate basis of prices. The demand may, indeed, be created almost wholly by the advertising of a producer in the effort to create a market for his goods and to make a profit thereby. It is the demand, just the same, and only the demand, that gives the goods value, thus reimbursing the producer for his costs, including those incurred both in producing and in selling them. Occasionally, too, a big selling campaign turns out to be a failure. Consumer "sales resistance" proves too strong to be overcome. The advertiser cannot create the necessary demand, and his goods are worth practically nothing, no matter what it cost to turn them out.

Even in the case of a monopoly, that seller's paradise, the same thing is true. A group of presidents of anthracite coal companies may decide to keep their production down to the amount that can be sold at $22 a ton, and the price may therefore stand at that figure. The sellers set the price. Yet it was the willingness and ability of the public to pay $22 for that number of tons, as against the number it would buy at other possible prices, that led the coal men to choose $22 as the price most profitable to them. Suppose anthracite

begins to feel more strongly than it previously did the competition of other satisfactory fuels, notably oil and gas. The coal producers must readjust their price and production policy to the new conditions of demand for coal. They will be obliged to cut their price or their output.

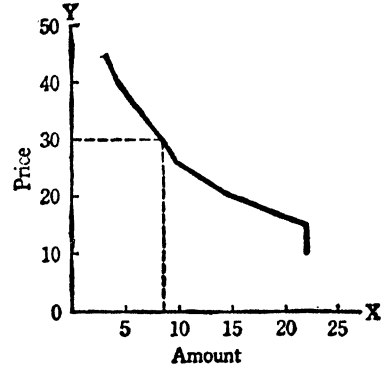
The ultimate dependence of price on demand is a fact no less evident in respect to producers' than in respect to consumers' goods. In the latter class, demand comes from consumers, who themselves want to consume the commodities. In the former, it comes from producers, who want to use the goods to help in turning out goods for consumers. The demand for producers' goods, therefore, is chiefly a business demand, contingent on the prospects of profits in producing goods for consumers. In saying that demand ultimately controls prices, of course we do not mean that buyers actually put prices on goods. Except in the relatively rare case of an auction, it is usually the seller who sets the price. Further, under our fixed-price system the active function of the buyer in retail trade is commonly limited to taking or leaving the goods at the prices set. We do not even try to beat down prices. Yet, in spite of everything, the prices of consumers' goods must rest finally on the solid foundation of what consumers are willing to pay for them. Demand is the basis of price.

Graphic Representation of Demand

In the study of the price-making process students have found graphic presentation useful, and we are ready at this point to try it. From our market-demand schedule for strawberries we can construct what is known as a demand curve. On a vertical line (the *Y* axis) we indicate on a suitable scale the successive prices of the schedule on page 230; on a horizontal scale joining it (the *X* axis), the successive amounts that would be taken at each of these prices. We have now a means of showing the relationship between prices and amounts which would be purchased at these prices. By a series of dots to the right of the *Y* axis we indicate the amounts that would be taken at each of the designated prices, measured up from the *X* axis; then we connect the dots by a line and we have the demand curve of Fig. 1, which tells the same story that is told by the schedule.

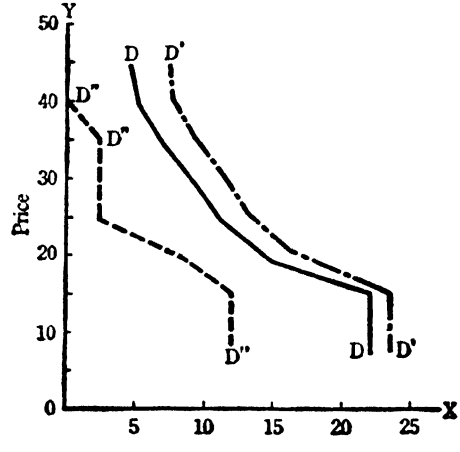
Remember that this curve does not show what the price is nor how many strawberries are being purchased. It only shows at each of a series of indicated prices the amounts which would be purchased. If the price were 45 cents, 4 quarts would be taken; if 20 cents, 15 quarts. We can see by a glance at the curve, as well as by the actual figures, that, all other things being equal—favorite expression of the economist—the lower the market price the greater the amount purchased. Suppose the price on a given Saturday morning is

Fig. 1



30 cents. By drawing a horizontal line from 30, indicated on the *Y* axis, to the demand curve, and dropping a vertical line from that point to the *X* axis, on which we measure amounts, we have discovered the amount which would be taken at 30 cents. Or by extending a vertical line from the *X* axis at any point, say 9, to the demand curve, and a horizontal line from that point on the curve to the price scale, or *Y* axis, we can see at what price 9 units would be purchased. The parallelogram which we have drawn by connecting a single point on our demand curve with the *Y* and *X* axes, represents the total expenditure for strawberries if the price is 30 cents. Suppose on Saturday night the merchants find themselves overstocked with berries. They know that to dispose of them they must lower the price. A change from 30 cents to 20 cents will bring a sale of 15 quarts instead of 9 quarts. This does not mean that a new demand has been created by the change in price. This sale was already possible *at that price*, as shown by the demand curve. Now change our conditions. Suppose that on the way to market a half-dozen housewives simultaneously learn that their husbands are bringing guests to luncheon. More strawberries than first planned are now deemed necessary. Strawberries have acquired new marginal utility, and each housewife will increase her demand. To represent the changed conditions a new series of dots and a new curve to the right of the original curve will be needed. Change the conditions once more, and imagine that half the housewives, those represented by B, D, and E in the schedule, before doing their marketing read in the morning paper that the day before strawberries acted as a fatal poison to a large number of consumers. Only those housewives who failed to see the item in the paper

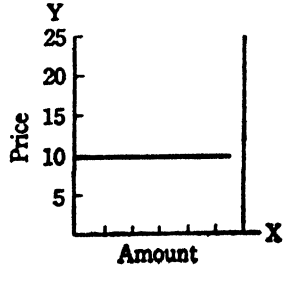
Fig. 2



carry out their original intention of buying berries that day. Fewer berries will be purchased at the indicated prices. The demand is reduced, and the demand curve will move to the left of the first curve. The increase in demand, illustrated in Fig. 2, results in a larger purchase at the old price or in the same purchase at a higher price; the decrease in demand, also shown in Fig. 2, results in a smaller purchase at the old price or a lower price for the same purchase.

To illustrate complete inelasticity as represented by the purchase of salt, we need a vertical line as in Fig. 3. No matter what the price, the quantity

Fig. 3

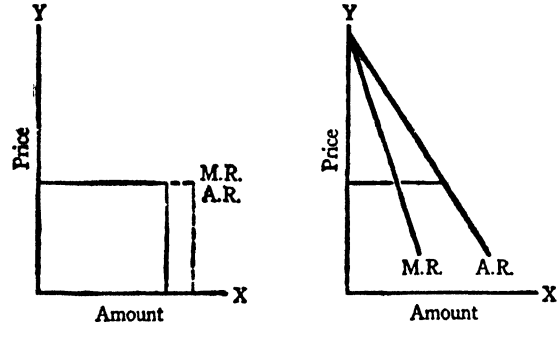


measured on the X axis remains the same. The opposite extreme assumes that at the existing price all conceivable amounts will be taken, but that the slightest increase will reduce the purchase to zero. The horizontal line of Fig. 3 represents this situation.

The next step is to examine the demand curve from the point of view of the suppliers of goods, whose great concern it is. Indeed, the business success or failure of producers may depend on the accuracy with which they can forecast the demand. To them it is something more than a demand curve; it indicates the average price at which any amount can be sold, or the average revenue which they will receive for any amount. In Fig. 1, the average price of 9 units was 30 cents; of 15 units, 20 cents. Henceforth this curve may be referred to as the average-revenue curve. The student should have no difficulty in recalling that it is also known to him as the demand curve. From the average-revenue curve the total revenue at any price is easily ascertained: amount times price equals total revenue. This is represented in the parallelogram of Fig. 1. On page 241 it was referred to as total expenditure, but clearly the total expenditure of the consumers must equal the total revenue of the suppliers of the goods.

However, the average-revenue curve does not set forth the facts about revenue which are of the greatest importance to the producers in planning production programs. They wish to know what is added to their total revenue or subtracted from it by shifts in price. It must be noted that for the time we are completely ignoring all questions of cost, though eventually, of course, we shall be obliged to consider them. At this point we must make a distinction between the situation of a single firm which has many competitors and the situation of the industry looked at as a whole. Suppose our single firm supplies a very small part of the total volume of cheap alarm clocks, at a market price of $1. At that price the firm sells all that it can make. If its sale is 2000 clocks, the total revenue is $2000 and the average revenue is $1; if the small factory should offer 2010 clocks, it could also sell the additional ten at $1 each. That is, our assumption is of a completely elastic demand for the single firm. Our demand curve is a horizontal line. Each additional clock sold would bring in $1, just as did the earlier clocks. The additional return—the amount added to the total return by the sale of an additional unit—we call the marginal return. For the two thousand and first clock the marginal return would be $1 and the average return would be $1. That is, marginal revenue and average revenue would coincide. Our demand curve, which became an average-revenue curve, is, in the circumstances here assumed, also a marginal-revenue curve, as in the left-hand diagram of Fig. 4. This is only for the single firm which produces but a small part of the total product. When we turn to

Fig. 4



look at the whole of an industry we find a different situation. Here we must remember the facts of a demand schedule and the slope of a demand curve. For the entire industry larger sales will come about only at lower prices. Suppose all the firms of an industry together have sold five cars a day by pricing them at $700. To sell six, cars must be offered for $650; to sell seven, for $600. The sale of the sixth car will not increase receipts of the industry by $650, for $50 has been sacrificed on each of the five cars which could have been sold at $700. The total revenue, had five been sold, would have been $3500; the total revenue if six were sold, $3900; if seven, $4200. The sixth car brought an increase of $400; the seventh, of $300. The average revenue when five were sold was $700; when six were sold, $650; when seven, $600. The marginal, or additional, revenues with the sixth and the seventh sale are $400 and $300. As more cars are sold the average revenue (price) declines, but the marginal revenue declines still faster. If we represent this by curves (Fig. 4), the student will see at once that the marginal-revenue curve under these conditions must lie below the demand, or average-revenue, curve. It could not be otherwise, provided the demand curve indicated that at a lower price sales were greater, which was our basic assumption about demand.

OUTPUT	AVERAGE REVENUE (PRICE)	TOTAL REVENUE	MARGINAL REVENUE
5	$700	$3500	
6	650	3900	$400
7	600	4200	300

If we had assumed these cars to be the daily output of one firm with many competitors, so that seven cars constituted a part of the total supply so small

as to have no effect on the price, then our firm could have sold all seven cars at $700 each. The total revenue if six were sold would have been $4200; if seven, $4900. The addition to total revenue with each additional sale would have been $700, the amount of the price. Thus average revenue and marginal revenue would have been the same and would have coincided with price, as in the case of the alarm clocks.

In summary, if we are dealing with a completely elastic demand, with its horizontal demand curve or horizontal average-revenue curve, the marginal-revenue curve will be identical with the average curve. Each additional sale will add to total revenue just the amount of the price, no more, no less. But for the industry as a whole increasing sales are commonly achieved by lowering the price. To put it the other way about, the demand curve will normally show an increase in sales as price falls. Additional sales, if made at lower prices, sacrifice part of what would have been received as the price for each of a smaller number of units. Thus new sales add to total revenue less than the price of the additional units sold. The marginal-revenue curve will lie below the average-revenue, or demand, curve. These curves as they look to a single producer and to the industry as a whole are represented by Fig. 4. The principles illustrated by the curves will gain significance as we continue.

CHAPTER FOURTEEN

Supply: Monopoly

Supply and Price

For the second agent in price-making we must pass over from the demand to the supply side, from the buyer to the seller. We may define supply in the same fashion that we defined demand, as the quantities of a good that sellers would be able and willing to supply, at a given time, at all the prices at which they would furnish them. Accordingly, we may construct supply schedules similar to our demand schedules. By using diagrams to bring the two together we may show that the price and the quantity sold will both be determined at the point where the demand and the supply curves intersect. This is a formally useful method of explaining price determination, which we shall examine later, but it does not really tell us what we want to know. We cannot simply assume the existence of supply schedules any more than of demand schedules. We looked behind the latter, to discover that they rested on the wants and the purchasing power of individuals and institutions. But supply, unlike demand, does not, in a society like ours, spring directly out of the wants of individuals. For the most part it is the result of business enterprise. It is based on business calculations. It is responsive to cost and price considerations in a fashion that is not true of demand. Outside of agriculture, supply is controlled chiefly by businessmen for business (profit-making) purposes. In agriculture it is controlled (or rather uncontrolled) by the activities of some six million farmers engaged in the attempt to make a living in a way still largely traditional, to no small extent still at the mercy of the weather, and responding only slowly to the price considerations that are the primary guides in business action. We must deal with supply primarily from the business point of view, as a problem of costs and prices.

Our general picture is one of prices determined, on the one side, by demand, springing out of the wants of consumers, and, on the other, by supply, springing out of the efforts of producers to make profits. In those efforts each producer tries to regulate the quantity of goods he offers for sale so as to make as much profit as he can. The total quantity of goods of all kinds produced (all of which will be offered for sale and ultimately sold at some price) is the resultant of the efforts of all these businessmen and of the activities that they

direct. In other words, it is the result of the expenditure of the entire productive energy of the country, so far as it is actually employed, under direction of its businessmen. A merchant stocks up with such goods in such quantities as he believes he can sell most advantageously in the limited market in which he operates, that is, to his potential customers. The Steel Corporation opens up and closes down its huge plants, turning out 21.9 million tons of steel in 1929, only 4.9 in 1932, and 32 in 1945, according as it reckons that one procedure or the other will be more or less profitable. A power company builds new dams and constructs new steam plants to turn out the electricity that it believes it can sell at a profit. Once a plant is constructed, the need to earn interest on the investment, to say nothing of other unavoidable expenses, creates a constant pressure on the company to turn out electric current that must somehow find a market; but the company will try to construct and operate its plants in such fashion that its product may be sold at the maximum total profit. The farmer always (except with government-controlled production) attempts to raise large crops, because that way lies promise of the greatest possible gains. Every type of businessman tries to adjust his output in such a way as to yield him the maximum profit. To get the maximum profit he must make the best possible combination of volume of sales with profit on each unit sold. Thus the study of supply is a study of conditions determining the volume of goods turned out to be sold, and in consequence ultimately sold, though perhaps not at the prices that their producers hoped to realize. As soon as we examine market supply it becomes evident that businessmen work under vastly different conditions in different industries and that we must study not one but several sets of circumstances under which adjustment of output goes on.

Supply in Time

To emphasize certain distinctions at this point will further later understanding. One of these relates to time. Supply was defined above as of a given time; but that time is not always the same, nor does it have the same significance. There is, first, supply at the moment. The stock of goods has been created, it is ready for sale, it must ultimately be sold or destroyed. Will it all come onto the market with no reservation price? That is, will each seller offer his entire stock at any price which the demand schedule sets? Probably not. There will be some who, if the good is not perishable, will hope for a better day and will hold back at a price which they consider too low. Even if the good is perishable, there may be some who would rather destroy it than sell it below the price they have determined upon. Thus, even for goods in

existence, there will be a supply schedule showing different amounts offered at different prices. This supply schedule might be very different from the amounts offered at the same series of prices if the given time were long enough to allow for an increase in the stock by the creation of new goods. At a given moment only the cotton sheets can be offered for sale which are in existence. A high price may bring all of them to the market; but it can bring no more, because there are no more. It may, however, induce manufacturers of sheets to increase their rate of production so that in three months' time the stock of sheets and the supply as defined above are markedly greater. Such a time period, for convenience of reference, may be called an intermediate period. Its length may differ for each commodity, but for each commodity it will be the period necessary to create more goods.

There is still a limitation on the supply of sheets. No matter how high the price, no more sheets can be brought forth in this time period, because the rate of production cannot be increased. All the available looms are in use. To increase the output of sheets it is necessary to build more looms, perhaps to plant more cotton fields. The length of time necessary to increase the supply is the time necessary not only to weave more sheets but to make more looms on which to weave the sheets. In considering the supply this period is the long run. Again it is clear that the length of the long run will differ for different commodities. To increase the productive facilities by means of which stocks of goods can be increased will take much longer for some goods than for others. These time periods are not matters of clock time, of so many days or weeks or months, but of time necessary for the production of goods or for the creation of the means for producing the goods. These differences greatly complicate the analysis of the influences affecting supply.

Control of Supply

The second of the circumstances important to the adjustment of supply is the degree to which stocks are controlled. When the stock and therefore the supply of a commodity are controlled by a single individual or firm, or a group acting together, the condition is one of monopoly; if the supply comes to market by the independent action of large numbers of competing sellers with no monopoly elements intermingled, the condition is one of unlimited, or pure, competition. Situations between these two extremes we shall for the present call limited competition. The basis for the classification is the degree of control which sellers have over the total supply. The two extremes, if the definitions are rigorously applied, rarely appear among business enterprises; some aspects of monopoly are to be found in most competitive business, and

some competitive features are usually present in so-called monopolies. Conflicting statements about the prevalence of monopoly in our economy stem, in part, from differences of definition. If by "monopoly power" we mean a power over supply so complete that the monopolist can fix his price without fear of competitors, of substitution by consumers, or of regulatory action by the state, then we may assert with confidence that monopoly is nonexistent in industry. If we accept a less rigorous but a more common and a more useful definition, monopoly exists whenever a single seller or group of sellers controls enough of the supply of a commodity to increase his profit by limiting the output and raising the price. In this sense monopoly is not unusual. It has no necessary connection with size. A big concern is not necessarily a monopoly, nor is a monopoly necessarily large. The sole question is whether there is unified control with respect to supply or price, and that question is not always as easy to answer as it may appear.[1]

Pure competition, like absolute monopoly, is a rare phenomenon. The conditions demanded are that the commodity must be standardized, sellers must be numerous, and the transactions of each must represent but a small proportion of the total of transactions in that commodity. No seller may control enough of the supply to affect the price. Further, there must be free access to the market by new sellers, and free withdrawal from it.

Between these two extremes lie the great body of market transactions, presenting perplexities so bewildering that at first encounter they seem to baffle analysis. Under the name here applied, "limited competition,"[2] are grouped situations which have only this in common, that they do not represent complete monopoly and are not purely competitive. Within this broad area an important division can be made: part of our industries are carried on by a few large firms, each of which controls so substantial a part of the supply as to make any decision about price or supply of interest to the entire group. The term also covers industries, large and small, in which the producer or seller has established for himself a miniature monopoly by proving that some aspect of his product is unique. We call this product differentiation. It is the purpose of much of our advertising. To the student it may seem the very heart of competition; but the aim of the producer is to escape from competi-

[1]For the situation in which there is a single buyer, as a canning factory offering the only market for sweet corn and tomatoes in a country district, the term "monopsony" is used.

[2]To avoid introducing the student at this point to the various subtleties which distinguish perfect from pure competition—and imperfect from monopolistic competition, duopoly, and oligopoly—the authors have chosen to use a single term, "limited competition," to apply to all situations between the two extremes.

tion by establishing a monopoly power over his particular brand and thus inducing a group of consumers to accept no substitutes.

This brief survey of the differing conditions under which output is determined and goods come to the market is necessary because as soon as we ask what is the influence of cost on supply and price we discover that there is no single answer. The reply must be given with due regard to the time under consideration and to the degree of control exercised by the seller over supply. It must also take into account the kind of costs involved.

Costs of Production

The essential point about costs is that they are obstructions to production. If there were no costs, each producer could simply call into existence whatever quantity of goods he believed would be most to his advantage. As it is, the cost obstruction is overcome as long as a producer finds the price equal to or greater than his costs. But if it is below his costs, he will not keep on producing indefinitely. In fact, he cannot unless he has unlimited capital that he is willing to dissipate for the purpose of keeping his business going. With price below his costs the obstruction to production becomes effective, and his possible output does not come into existence.

In the beginning of the discussion of price it was pointed out that price is not determined by cost. Nothing is sold at the price which it commands just because it costs that amount to produce it. Nonetheless, because costs of production affect the supply, they affect the price. The supply schedule is, as has been said, the result of business enterprise and is closely related to calculations of money costs. Any attempt to discover the price-making influences calls for an examination of all the conditions which bring supplies into existence or which act as obstacles to their production. Here costs of production are of major importance. In considering our first time period we have no interest in costs. The goods are in existence, the costs have been expended. All that the seller can now do is to take the highest price he can get. In the intermediate and the long period costs act on supply and thus on price, but they act with a difference which we must examine before the explanation of price is complete. The costs of production play a part in determining both monopoly and competitive supply, but again with a difference.

Fixed Costs and Variable Costs · Considerations of costs are sometimes of total costs, sometimes of unit costs. The distinction is important, and carelessness in maintaining it often results in unnecessary confusion. Total costs are the aggregate of all costs incurred by a firm or by an industry to obtain a

certain output. The items which together make up aggregate costs do not all behave in similar fashion. Some of them continue the same during a time period, no matter what the volume of output; others vary as the amount of the output varies. Interest on bonds, insurance on the plant, the salary of the president of the company, are fixed for a period, and during that period are unchanging whether 10,000 or 100,000 units are produced. It does not follow that these items are fixed for the same period; the bonds may run for thirty years, the insurance for three, the salary of the president for five. Such costs are, for the appropriate period, fixed costs. No matter what the variation in the rate of output, interest on outstanding bonds must be paid. Whether a company is working at capacity or not, it is probably paying the same amount of insurance on its plant and the same salaries to its executive officers. There are many such charges which do not fluctuate with a changing volume of production. Included in the total costs are also certain costs which increase as the output increases and diminish as it diminishes. These are variable costs. Each increase of output increases the total amount of the variable costs, of which costs of material and of labor are important examples.

Costs per unit can also be separated into fixed and variable costs. If the fixed costs of a plant are $50,000, then an output of 25,000 units will be produced at a unit fixed cost of $2; an output of 50,000, at $1; of 100,000, at 50 cents. These are not total unit costs, for we have ignored variable costs. They indicate what portion of the fixed costs attaches to each unit of production with differing rates of output. As the volume increases, the unit fixed cost declines; therefore the statement that fixed cost remains the same is applicable only to the total amount, not to the part of unit costs which it constitutes. The larger the volume of product among which fixed costs are spread, the smaller the share of such costs attributable to each unit. If all costs were fixed costs, we could assert that as output increased, unit costs declined; but no such assertion can be made until we know how variable costs behave.

If the cost of the cotton which is necessary to make a sheet is 40 cents, and (to simplify our conditions) if this is the only variable cost, then every time a sheet is added to the output 40 cents is added to the aggregate of variable costs and to total costs. When 25,000 sheets are made, the variable costs are $10,000; when 50,000 sheets are made, $20,000; when 100,000 sheets are made, $40,000. The whole sum varies with the volume of production. Here we have assumed the unit variable cost to be a constant—40 cents. At first encounter the terms are slightly bewildering, even though the ideas are simple. The assumption that variable costs per unit remain constant with changes in volume is not a necessary assumption. Conditions of production may be such that with a larger volume of product variable costs per unit decline. Or they

may increase as output increases. If for any reason variable per unit costs increase with added output, the result may be the same total cost per unit, no matter what the number of sheets produced. If 25,000 sheets are produced, the unit fixed cost is $2; the unit variable cost, let us say, is 50 cents; the total unit cost, $2.50. If 100,000 sheets are produced, the unit fixed cost is 50 cents; but the unit variable cost has risen to $2, and the total unit cost has remained $2.50. A perfectly compensating movement of unit variable costs is highly improbable, but it illustrates a logical possibility. For reasons which we shall not here discuss, unit variable costs may be expected to fall as volume increases, but at some point in the increase to turn upward. When the total unit cost (including both fixed and variable) declines as the amount of production increases, the condition is termed one of decreasing cost; if unit costs increase as output increases, we describe the condition as one of increasing cost; if there is no change in unit cost with expanding output, the condition is that of constant cost. It must be remembered that it is variations of *unit* costs with differing outputs to which reference is made by these terms.

Average Cost and Marginal Cost · Two more cost concepts we are now to consider, those of average (or unit) cost and marginal cost, akin to those of average revenue and marginal revenue. The total cost divided by the number of units produced gives average cost; but it is not a knowledge of average cost that is of first importance to a producer planning a production program. For his calculations marginal cost—the additional cost of producing an additional unit or an additional block of units—is all-important. The manufacturer of sheets produces 12,000 sheets at an average cost of $1.25. As the price at which he sells sheets is well above that, he rests content, assured that he is making all possible profits, until an acute analyst of costs convinces him that by producing 12,000 sheets a month instead of 10,000 he has added $3200 to his costs. The marginal cost incurred by producing this number of sheets is thus $1.60; yet he is selling his sheets for $1.50, thus reducing his possible profit by $200 each month. Here the condition is one of increasing cost per unit as the volume of product increases.

If unit costs are constant under varying amounts of production, then every additional unit produced adds exactly the same amount to the total costs. Under such circumstances average costs and marginal costs are the same, and we need not distinguish between them. Suppose, however, that a firm is working under conditions of decreasing costs. Here we shall take a completely unreal situation in order to illustrate the possibilities simply. One automobile, we shall assume, can be produced for $600; two, for $1050, three, for $1350. If two are produced, the average cost is $525; if three, $450. The marginal

cost incurred by producing the second car is $450; by producing the third car, $300. Average costs are declining; marginal costs are declining more rapidly. Had the cost conditions for the maker of sheets above been similar, he would have been well advised to make 12,000 sheets a month. Perhaps he should have been making 14,000.

Reverse the situation for the maker of automobiles. He contemplates making twenty-one cars a week. To do so the twenty-first car will add $675 to his total costs, which are, with this addition, $12,675. If he makes twenty-two, he adds $700, and his total becomes $13,375. His average cost for twenty-one will be $603.57; for twenty-two, $607.95. His average costs are rising with increasing output, but his marginal costs rise faster. With these concepts in mind, we turn to the price policies of the monopolist.

Monopoly Price with Fixed Supply

As a preliminary to the usual situation, in which the producer or producers can vary the amount offered, we examine the simplest possible condition, that of the owner of a unique good who wishes to sell it for as much as he can get. The possessor of a fine Rembrandt decides that he must raise money by selling it, much as he may hate to do so. He places it in the hands of a dealer with instructions to dispose of it at the best price he can get within perhaps two years, and perhaps puts an upset price on it. Here, with a single seller of a unique good, we have an instance of absolute monopoly. The good is already in existence, and we need give no attention to cost of production. It is often said that under such circumstances the seller can get any price he pleases. Plainly this is not true. Since the owner is selling his painting only because he wants money, he would naturally be glad to get as much as possible. Doubtless he would like to have a million dollars, but he cannot get it, because nobody in the world is willing to pay as much as that. The dealer will have the task of tactfully informing the handful of possible purchasers among rich men and museums that the picture might be had if a sufficient price were forthcoming. If any one of them wants it enough to make an offer for it, his offer, if above the upset price and if in the judgment of the dealer and the owner as high as is likely to be realized, will set the price of the picture. If the owner had made the best guess he could at the highest price obtainable, and had instructed his agent to offer it for sale at that price, such action would not have enabled him to get it. If he had guessed too high there might not have been a buyer to be found in all the world willing to pay so much.

Take a second situation, substantially identical with the first, but involving only ordinary business considerations. The owner of the best corner lot in

the business section of a town wishes to sell it. Like the Rembrandt, it is unique, though of course there may be other lots almost as good. The actual price, just as in the previous case, is going to depend on the best offer that anybody interested is willing to make, or if the owner himself has set the price, then on the ability of the dealers to find a buyer to whom the property is worth so much. The seller in both instances has an absolute monopoly, and in both the price is limited by what the buyer is willing to give. If the seller is to sell his property, that price he must take. That price he will get if he can discover it. Such is the rule of all commercial transactions. So far as this is concerned, the monopoly seller is in precisely the same situation as the one who is subject to the restraints of competition. Given a fixed quantity to be sold, the seller must take whatever price buyers will give for that amount. No monopolist can compel them to give more.

Monopoly Price with Variable Supply

We began our examination of actual price-making with the simple illustration of the seller of a unique, a monopolist selling a fixed supply. We pass on to a monopolist who sells a product that can be multiplied at will, like a trick collar button, a patented electric refrigerator, or a copyright book. The exclusive power of sale evidently rests on exclusive power to produce or to control production of the good for sale, whether such exclusive power depends on legal grant, like a patent or copyright, on the control of limited natural resources needed in production, or what not. Whatever the source of his power, its possession enables the monopolist to control the total quantity of the product offered for sale, as he thinks most profitable. It is this power, and this power alone, that distinguishes the monopolist from the competitive seller. It is worth noting that the monopolist stands at the opposite pole from the farmer, who cannot exercise any discernible control over the total output of wheat and corn and hogs, and therefore pays no attention to the effect of his own action as producer on the price of what he sells. How will the monopolist act? Like all other businessmen, he will try to make as large total profits as possible. In doing so he can decide either the price he will charge or the quantity he will sell, but he cannot fix both. Whichever he decides, he must let the buyers decide the other. What he will actually do is to make the best combination he can of price and quantity that can be sold at that price, so as to have as much total profit as possible left above his total costs of production. And he will remember that the higher the price he charges the smaller the quantity he can sell.

A man owns a unique mineral spring which has a flow of about 3,500,000

gallons a year. The water is strongly impregnated with sulphur and other minerals, so that it has a disagreeable smell, a strongly unpleasant taste, and a yellowish muddy color. Chemical analysis discloses that it contains elements supposed to be serviceable to people suffering from certain bodily ailments. The owner therefore conceives the idea of selling it on the strength of its disagreeable qualities and its supposed medical usefulness. For the moment we shall step quite outside reality and suppose that he has no costs to consider. His determination of price is a simple matter of arithmetic resting on the demand schedule. What price will he choose? Suppose that he has been experimenting with various prices, ranging all the way from 45 cents up to $2 a gallon, and has come to the conclusion, as far as he can make any guess, that, under the arrangements he proposes to inaugurate, he might hope to sell the following amounts yearly at the various prices set down.

Demand Schedule for Ideal Mineral Water

PRICE	EXPECTED SALES (IN GALLONS)	REVENUE
$2.00	200,000	$400,000
1.75	440,000	770,000
1.50	500,000	750,000
1.25	600,000	750,000
1.00	2,000,000	2,000,000
.75	2,900,000	2,175,000
.50	3,000,000	1,500,000
.45	3,500,000	1,575,000

It is clear that at best any such estimate could be nothing better than high-grade guesswork, and rarely would there be any basis at all for judgment over such a wide range of prices as is here suggested. Ordinarily a seller has almost no practical knowledge of the effects of price changes on sales outside very narrow limits. However, let us endow our spring-owner with this rather unusual knowledge and see how he would act. His problem is easy. With no costs to consider, he need only scrutinize his total revenue. He finds it largest when the price is 75 cents, his income at that price being $2,175,000.

As already indicated, his liberty to choose any price he will is dependent on his ability to control the amount produced, for if he sets the price, the consumer will decide ultimately how many gallons he can sell, and he will have to keep down his bottling operations to that point, letting the rest of the flow run to waste. This, however, he is glad to do if a higher price yields a larger total revenue than one which would sell the entire output of the spring. What he wants to do is not to sell as much mineral water as possible, but to make as much money as possible selling mineral water. He does not think, therefore, of a price of 45 cents, even though at that price he could dispose

of the entire capacity of the spring, because he realizes that he would make less by selling the whole output at 45 cents than by selling 2,900,000 gallons at 75 cents.

We move a step nearer to actual business conditions and recognize the fact that even with mineral water supplied by nature there would be costs involved in bottling it and putting it on the market. The owner finds that he can bottle it in any amount at a cost of 10 cents a gallon. All his other costs, up to the point of delivery at the railway station where he will ship it, add another 5 cents, and give him a total unit cost of 15 cents a gallon. For every gallon he produces he thus adds 15 cents to his total costs. The assumption here made is that as he increases the amount prepared for market his unit costs remain constant. In order to bring out clearly the fundamental principle involved, we simplify the actual conditions and costs of production and sale. What now will be the production and price policy of the enterprising owner? What price will he set on his elixir of life? What part of his whole capacity will he try to dispose of? The answer still depends essentially on his best guess, or his best judgment, as to the demand for his product. Given the demand schedule of page 255, he examines the possible profits of varying amounts under these cost conditions and finds that the addition of a constant cost per unit has not changed the price which he must charge to obtain the maximum profit.

Revenue, Costs, and Profits

TOTAL REVENUE	TOTAL COSTS	PROFIT
$400,000	$30,000	$370,000
770,000	66,000	704,000
750,000	75,000	675,000
750,000	90,000	660,000
2,000,000	300,000	1,700,000
2,175,000	435,000	1,740,000
1,500,000	450,000	1,050,000
1,575,000	525,000	1,050,000

Finally, let us assume that he must incur much larger costs than he first considered if he is to reach the public. He is obliged to borrow $150,000 at 6 per cent interest for the enlargement of his bottling works and shipping facilities, and he believes that an advertising appropriation of $50,000 a year in addition to the expenses he has been incurring is necessary to make his product known. He intends to make choice of a permanent country-wide price; for he wants to develop Ideal Mineral Water into a standard product that will become generally known and will be widely and steadily sold. Let the owner's cost of bottling and shipping remain uniform at 15 cents a gallon. Further, let his freight or express charges, plus all payments to those who handle

the water, work out, as nearly as he can estimate, at an additional 25 cents a gallon, making a unit cost on each gallon of 40 cents. These are his variable costs. In addition, he has two costs that do not vary with the volume of business done, namely, the $9000 a year interest on the borrowed money invested in his plant and the $50,000 a year advertising that he has decided on as essential to keep up sales of his product. This total of $59,000 fixed costs goes on whether much or little business is done.[3] The arithmetic of the price-fixing problem is then as follows, based, it will be remembered, so far as sales and receipts are concerned, not on actual knowledge but on the best estimate or guess that the seller can make as to the prospective figures:

Revenue, Costs, and Profits

PRICE	SALES	REVENUE	VARIABLE COSTS	FIXED COSTS	TOTAL COSTS	PROFIT
$2.00	200,000	$400,000	$80,000	$59,000	$139,000	$261,000
1.75	440,000	770,000	176,000	59,000	235,000	535,000
1.50	500,000	750,000	200,000	59,000	259,000	491,000
1.25	600,000	750,000	240,000	59,000	299,000	451,000
1.00	2,000,000	2,000,000	800,000	59,000	859,000	1,141,000
.75	2,900,000	2,175,000	1,160,000	59,000	1,219,000	956,000
.50	3,000,000	1,500,000	1,200,000	59,000	1,259,000	241,000
.45	3,500,000	1,575,000	1,400,000	59,000	1,459,000	116,000

On the basis of these figures, Ideal Mineral Water will evidently be put on the market at $1 a gallon, for that price promises to yield the owner, as nearly as he can estimate, $1,141,000 a year clear profit. The next most promising price, 75 cents, offers a profit of only $956,000; the third best, $1.75, but $535,000. The owner chooses the price that will yield the greatest total net profit, not the one that will bring in the greatest gross revenue.

Total profits are simply the differences between total revenues and total costs. The price, namely $1, at which that difference is greatest, will be chosen as the most profitable one. It will be observed that as price goes down sales constantly rise, but total revenues sometimes rise and sometimes fall. What we are actually examining is the effect of a demand of varying degrees of elasticity at different points in the demand schedule. Where total revenue falls with a decrease in price, the increase in sales is not enough to make up for the decreased price received per unit. On the other hand, total costs continually rise as the lower prices bring increased sales. While fixed costs remain constant at $59,000, total variable costs, which, it will be recalled, run uniformly at 40 cents per gallon, increase directly in proportion to the increase of sales. In fixing the price of the mineral water the owner must make the

[3]In actual business there are many fixed costs that must be met, even if no business at all is done. The two given here are merely illustrative.

best guess possible at the difference between total revenues and total costs, and choose the price at which that difference is greatest.

Costs and Monopoly Price

While the monopolist was studying the possibilities of profit in his business, he examined his costs much more carefully than we have so far done, and thus discovered some relationships in which we are interested. He found, first — what we have already recognized—that his costs were of two kinds, fixed and variable. As his variable costs were constant—40 cents a gallon up to the capacity of the spring—any reduction in unit costs to be gained from increased output must come from the relation of the volume to his $59,000 of fixed costs. If he produced but 200,000 gallons, the share of fixed costs attached to each gallon would be 29.5 cents; if he produced 2,000,000 gallons, it would be 2.95 cents. With the smaller output the unit cost would be 29.5 cents added to 40 cents, or 69.5 cents; with the larger, 42.95 cents.

What is the probable effect of this decreasing cost situation on the price the owner of the mineral spring will set on his product? He cannot sell 2,000,000 bottles, it will be remembered, at any price above $1. If, therefore, he wants to get the advantage of the decline in unit costs that comes with the attainment of that output, he will have to keep his price down to a dollar. If increased output is accompanied by decreasing unit costs, therefore, a monopolist has a double motive to set low rather than high prices. Not only will he thereby increase the number of units he can sell but he will also decrease the cost of each unit he turns out. Against the lowered price received per unit, tending to lessen profits, are to be set not only the increased number of units sold but also the lessened cost of each, both influences tending to raise profits.

In his various calculations he finds that if he sells 2,000,000 gallons at $1 each, they having cost 42.95 cents each, his profit on each gallon is 57.05 cents. This, multiplied by the 2,000,000, gives a total profit of $1,141,000, the same amount we arrived at by subtracting total cost from total revenue. This gives a second way of describing the point of greatest profit: the point where the profit per unit multiplied by the number of units sold is at a maximum. Observe that this is by no means the point where the difference between the cost of a gallon of the elixir and the selling price was greatest. Units costing 69.5 cents each could be sold for $2, yielding a profit of $1.30 on every gallon; but only 200,000 could be sold at that price, and the total profit would be less than at the lower price.

His bookkeeper points out to him some curious facts drawn from the figures on page 257. The addition of 100,000 to his sales, accomplished by lowering

the price from $1.50 to $1.25, brought no addition to his total revenue, whereas the change from $1.25 to $1 added $1,250,000 to the total receipts, and 1,400,000 gallons to the sales. As the monopolist bottled and sold the last gallon of his 2,000,000, he added 89 cents to his revenue ($1,250,000 ÷ 1,400,000) and 40 cents to his costs. From the figures of his demand schedule we learn that if he had produced and sold one more bottle, he would have added 19 cents to his revenue; we know that he would have added 40 cents to his costs. This would have left him 21 cents worse off than he would have been had he stopped with 2,000,000 gallons. He has here a third way of stating the point of most profitable production: it is that volume at which rising marginal cost most closely approximates marginal revenue. It is usually stated as that volume of production at which marginal costs and marginal revenue coincide; but, given the units with which our monopolist is working, he has no point of exact coincidence. His volume must be determined at the nearest approximation to it. The figures below illustrate the relations between marginal costs and marginal revenue which he has been considering.

Marginal Revenue and Marginal Costs

SALES	TOTAL REVENUE	MARGINAL REVENUE	MARGINAL REVENUE PER UNIT	TOTAL COSTS	MARGINAL COSTS	MARGINAL COST PER UNIT
200,000	$400,000			$139,000		
440,000	770,000	$370,000	$1.54	235,000	$96,000	.40
500,000	750,000	−20,000	−.33	259,000	24,000	.40
600,000	750,000	0	0.00	299,000	40,000	.40
2,000,000	2,000,000	1,250,000	.89	859,000	560,000	.40
2,900,000	2,175,000	175,000	.19	1,219,000	360,000	.40
3,000,000	1,500,000	−675,000	−6.75	1,259,000	320,000	.40
3,500,000	1,575,000	75,000	.15	1,459,000	200,000	.40

If he pushes production beyond this point, his last units of output will add more to cost than their sale adds to his return. If he fails to reach this point there is a potential profit (difference between marginal cost and marginal revenue) which he has failed to attain. The point of maximum profit, at which we have presumed that he is aiming, is the output at which marginal cost and marginal revenue are identical. Graphic representation at this point will help to clarify the principle.

Graphic Representation of Supply and Cost

We need first to construct a supply curve which represents a supply schedule just as a demand curve represents a demand schedule. For reasons which should be clear, we are justified in assuming that in any given period higher prices will bring larger amounts to the market. The curve, measuring amount

Fig. 5

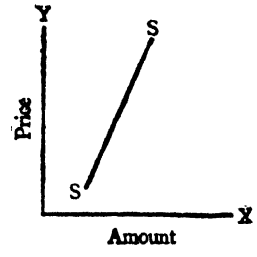
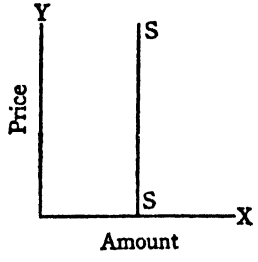


Fig. 6



on the *X* axis and price on the *Y* axis, will then slope as in Fig. 5. Should conditions be such that a change in price makes no change in the amount on the market, the supply curve will be a vertical straight line, representing a completely inelastic supply (Fig 6).

We have already remarked that problems of supply are far more complicated than are those of demand, but this simple statement will serve as a starting point. Just as we found demand curves to be revenue curves also, we find that supply curves will lead us to cost curves. Suppose that in any given time period we are considering a supply which can be increased only with an increase in total unit costs. This supply curve (Fig. 7) is, in reality, a curve of average costs. As we measure larger output on the *X* axis we measure mounting costs on the *Y* axis. Total costs are costs times output, or *OAEV*. If the business is one of decreasing unit costs, the curve will slope as in Fig. 8,

Fig. 7

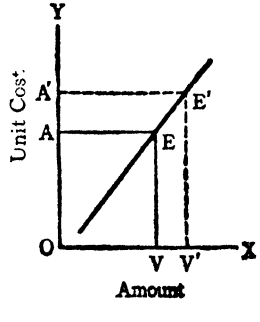


Fig. 8

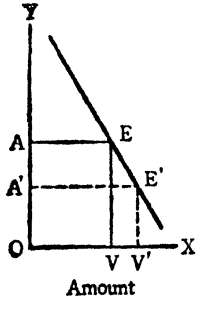
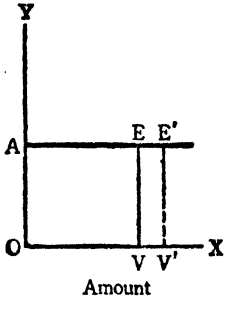
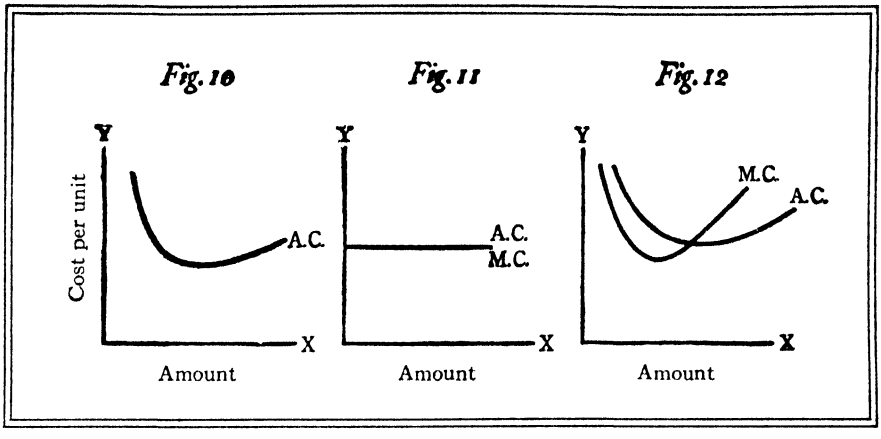


Fig. 9





each increase in output involving a decrease in unit costs. Suppose, however, that the business is one of constant costs; then every addition to supply adds exactly the same amount to costs, and the resulting cost curve is a horizontal line as in Fig. 9.

Most industries can expand output to some point with decreasing unit costs; if they push their production beyond that point, their unit costs rise. In graphic terms this means that their average-cost curve for all conceivable outputs will ordinarily decline, then rise, thus giving a U-shaped curve, as in Fig. 10. This average-cost curve represents the sum of the average fixed costs and average variable costs discussed on page 251. As we have seen, average fixed costs decline as output increases; average variable costs may decline, may remain the same, or may increase.

These average-cost curves are not the ones of greatest importance to the monopolist, any more than the average-revenue curves are the important curves to the producer who is considering his demand. He wishes to know just how much he adds to his total costs by adding a unit of product. If he is working under conditions of constant cost, the marginal cost, that cost added by adding a unit of output, is exactly the same as the average cost. His average-cost curve and his marginal-cost curve are identical horizontal lines (Fig. 11). What is the relation of marginal cost and average cost if the condition is one of decreasing cost? The addition of a unit of product adds less to cost than the average cost. Average costs can move down only because additions to output involve added costs less than average. Average costs can move up only because additions to output involve added costs greater than average. Marginal costs are higher than average, or the average curve would still be moving down. To revert to some simple arithmetic may help to make this clear.

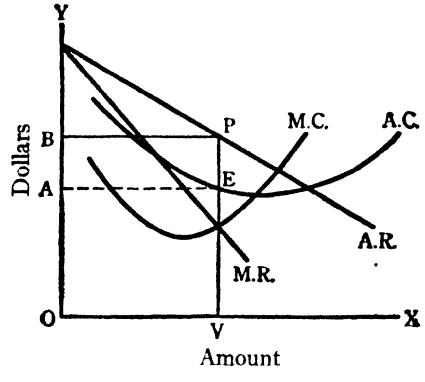
Average and Marginal Costs

OUTPUT	TOTAL COST	AVERAGE COST	MARGINAL COST
1	$8	$8	
2	12	6	$4
3	15	5	3
4	16	4	1
5	22.50	4.50	6.50
6	30	5	7.50

If two articles can be made for $12 and three for $15, the amount added to the total cost by the third article is only $3; the average cost is $5. If four can be made for $16, the fourth adds but $1 of cost; the average is $4. Marginal costs are less than average and are declining faster than average. But once marginal costs are more than average, as when five articles are made, average costs must increase. Fig. 12 expresses graphically what these figures say. Putting the conclusions into words: (1) marginal-cost curves are below average-cost curves so long as average costs are moving down; (2) marginal costs are above average costs so long as average costs are moving up; (3) marginal costs must, then, coincide with average costs at the lowest point on the average-cost curve. The same statements can be made of the marginal-cost curve and the average-variable-cost curve.

We are now ready to combine in the same figure the marginal-revenue and average-revenue curves of the last chapter and the marginal-cost curve of this. We shall find that the point where marginal revenue and marginal costs coincide indicates the output of greatest profit for the producer. It could not be otherwise, for if he should increase his product beyond that point his costs would increase more than his revenue, so that he would be producing the *additional* units at a loss; if he should check production before he reached that point he would lose a potential profit, since further increase of output would add more to total revenue than it would add to total costs. There is nothing here which is not simple common sense when put into words, but the figure which illustrates the words seems on first encounter highly complicated. Observe that the output has nothing to do with average costs but is determined by marginal relations only. By extending a vertical line from point of output to the demand curve and measuring from the demand curve to the *Y* axis we discover the price at which this output can be sold. Under conditions represented in Fig. 13 the amount *OV* will be produced at a price here represented as *OB*. The total revenue is the rectangle *OVPB*, amount times price. The average cost of a unit of production is *VE*, the total cost *VEAO*, amount times average cost. The profit must then be the difference between the two rectangles, *AEPB*. This is the maximum profit which,

Fig. 13



under these conditions of cost and of demand, the monopolist can realize. Any shift in his price or in his volume of output will serve only to reduce his profit.

The Limits of Monopoly Price

These are the rigorous conclusions reached by the economist who examines the determinants of monopoly price. Yet the economist would be quick to acknowledge that monopoly prices are not all set where they yield maximum profits. What are the influences that cause a monopolist to keep down his price and choose a larger output rather than a smaller one? The existence of substitutes is reflected in the elasticity of his demand curve and thus in his calculations of volume, price, and profit; but it is entirely possible that he may modify his present policy because of fears of future substitutions or of future competition. Unless a monopolist holds an absolutely impregnable position, experience shows the danger of tempting fresh capital into the same field by setting prices which result in such inviting profits as to call into existence competitors who will deprive him of his exclusive power to control production and thus fix prices. The wise monopolist under such conditions is likely to choose relatively low prices and moderate gains per unit on a large output rather than high prices and the highest possible profits with the prospect of future competition. This amounts to saying that he plans to maximize his profits over a long instead of a short period.

A second limit is found outside the economic sphere, in legal action, either actual or potential. It has been the general theory of the law in capitalistic

countries that the making of prices may most advantageously be left to the action of individuals working in pursuit of their own economic interests. It is assumed that the competition of individuals will result in the economical production of goods and their sale at prices that bear a reasonable relation to the cost of production. Monopoly is viewed with disfavor, and public authority has not hesitated to step in and set prices on monopoly products of widespread general consumption. Railroad rates in the United States have been subject for half a century to a constantly growing measure of public regulation by the Interstate Commerce Commission. Similarly, public-utility rates are now regulated in greater or less degree by public authority in a large proportion of our states. Whenever a large business enterprise approximates a monopoly position, it is likely to find itself the object of public hostility and to face the danger of unfavorable legislation, not only with respect to its prices but in regard to taxation, methods of operation, and all the manifold particulars in which it may be brought under the control of regulatory bodies. Even if the monopolist does not find his prices actually limited by public authority, he may consider it expedient to keep them down below the levels he would otherwise think desirable, for fear of inviting public resentment. In that event investigation, leading ultimately perhaps to legislation or administrative action, might cut his gains below those that he would have obtained by a more moderate price policy. He may prefer to be wise in season.

These influences may prevent a monopolist from charging as high a price as would maximize his profits. It is also true that his prices may be too high to obtain that result. One reason for this is the limited knowledge on which businessmen have to act. The economist may set down imaginary schedules to his heart's content, showing what would be the profits at various prices under assumed conditions. The man who has the practical task of keeping out of the bankruptcy court, and if possible making profits for himself or his stockholders, cannot by any possibility know with even an approach to exactness what would be the effect on sales of prices widely different from those he has been accustomed to charge. Consider, for example, the practical task of making telephone-rate schedules. In the first place, it is a matter of setting not one price but thousands of prices, and of adjusting all those prices in such a way as to make as good a return as possible on the billions of dollars that telephone stockholders have provided for the development of the business. What would be the result of making a general rate reduction of 25 per cent in a certain town? Would it increase the number of subscribers and the amount of business sufficiently to make the new rates pay better than the old ones? Probably not even the best expert in the service of the company could do

better than hazard a well-informed guess. Even if the company could be sure that such a cut would pay for itself in the particular town, would not a reduction there lead to an irresistible demand for similar reductions in other towns where conditions might be dissimilar, and where a loss might be entailed instead of a gain?

Yet further, suppose that on trial the new rate were found less profitable than the old one. It would be hard to go back to the old schedule; for any increase of prices on the part of a monopoly concern is likely to occasion a great public clamor, which may have even more unpleasant business consequences, in the form of demands for investigation, pressure for more restrictive legislation, or the putting of teeth into the jaws of commission watchdogs, whose bark at present is generally worse than their bite. An intelligent telephone management, seeking to do the best that it can by its stockholders, and at the same time to discharge its public responsibilities in such a way as to court the minimum of government interference and to stave off the possibility of government operation, will inevitably be conservative about rate reductions, popular though they might be, making them only where it feels fairly sure that they will result in increased net revenue or where they are imperatively demanded by public sentiment.

The same thing is likely to be true of any well-managed monopoly business. If it is doing well and is getting along with only a reasonable amount of public criticism, it would not generally be the part of wisdom to enter on extensive experimentation with prices, even though the monopolist had a shrewd suspicion (contrary to most experience and the usual way of looking at things) that he might make more money at lower prices. The practical problem of monopoly price-making is widely different from the theoretical consideration of the matters that would have to be taken into account in setting the most profitable price. In addition to the lack of knowledge already emphasized, the weight of business tradition, the great body of business experience, and the other practical considerations suggested above, all operate in the direction of maintaining high prices under monopoly conditions rather than experimenting with lower ones. It is by no means unlikely that monopoly prices are often too high for the economic advantage even of the monopolist himself. He would never purposely fix them at such a point; but he may very readily do it in consequence of ignorance or timidity or lack of imagination. Business is largely a matter of conducting a routine within fairly well-defined limits or with only a slight transgression of those limits. The power companies of New York State have been exceedingly reluctant to do what the New York Power Authority seems trying to dragoon them into doing, namely, to cut rates to something like 3½ cents per kilowatt hour when many of them have been

used to getting twice that amount, yet experience in many places certainly suggests that the lower price would be for them the more profitable one.

In considering the action of the monopolist we must not ignore one possibility open to him which has weighty social and economic consequences, that of discriminating among his customers. Suppose a monopolistic railroad carries soft coal for one mine at a published rate but for a rival mine for much less. Clearly the first mining company is at a great disadvantage and may be driven from the market because of its greater freight costs. The same sort of discrimination can be used to give advantage to one area over another, one industry over another, or one firm within an industry. By means of discriminating prices monopolies may be able to increase their profits, charging in different communities or to different classes of customers the price which will bring maximum profit from that group. Many of the difficulties arising from monopoly have been the consequences of the exercise of such discrimination among customers.

Summary

Prices depend at bottom on the willingness and ability of consumers to pay for the various goods and services they consume. Given a particular state of such willingness and ability, that is to say, a particular demand for a good, the price that can be charged in the market will depend on the quantity of that good that is to be sold. The monopolist is in a position of advantage solely because he can limit at will the quantity of the good produced and consequently offered for sale. He will try, therefore, to set the price in accordance with the principle of maximum net return, limiting production to the quantity that can be sold at that price. In determining what constitutes the most profitable price for the long run, he keeps in mind potential competition, and the danger of legal restraint of various kinds. Some monopoly prices are probably too high to yield maximum profits; yet practical common-sense considerations work against the lowering of established monopoly prices: notably the monopolist's ignorance of the sales that might actually be expected at materially lower prices, the difficulty of restoring the old price if the new one should turn out less profitable, and the tendency of the intelligent businessman to let well enough alone. Monopoly prices differ from competitive ones, not because the monopolist is a man of different character and purposes from the man subject to competition, but because it is possible for him to restrict the total output to that point where marginal revenue and marginal costs coincide, while restrictions imposed by a competitive firm have little effect on total supply.

CHAPTER FIFTEEN

Supply: Unlimited Competition

THE larger the number of competitors in any industry the smaller is the influence that any one of them can exercise on the total supply. The less, therefore, is the attention he will pay to the possible effects of his own action on price, and the less closely will his action tend to approximate that of a monopolist. At the extreme, he will cease to think of himself as having anything to do with making the price, though he will direct his action in accordance with prices, which he conceives of as fixed by forces external to his action. Thus, the farmer will shift from one possible product to another according to their relative prices. His idea is simply to turn out the one that commands the higher price. He thinks of prices as determined in the market by forces in no way under his control. His only power, as he sees it, is to refuse present prices and hold his goods for the time being off the market in the hope of realizing a better price later. He hopes for that better price not in consequence of his own action in refusing to market his product but as a result of uncontrollable market forces. If he has no hope of higher prices, he will, for the stock already produced, simply take what he can get.

Agriculture furnishes far and away the best example of this type of price determination; but there are many manufacturing industries also in which no producer turns out a significant proportion of the total output. In these industries prices are determined in the same way as in agriculture. This is what we mean by unlimited competition. The essential conditions of such competition are that the products to be sold must be differentiated only by price, that buyers and sellers must act with knowledge, that no one of the competitors shall turn out a large enough proportion of the output so that his action in producing and selling can significantly affect the price, and that there shall be free entry into the industry and withdrawal from it. No producer, therefore, thinks of prices as being in any way subject to his influence or control. Prices thus determined are what Mr. Gardiner Means calls *market prices*, on the ground that they are fixed in the market by the free play of demand and supply. *Administered prices*, by contrast, are those fixed by government action, or by the deliberate decision of dominant producers who adjust their production to the amount of the demand at the price they have set.

The latter are the prices of commodities produced under conditions of monopoly such as we have examined, or under conditions of limited competition which will be considered in the next chapter.

Under unlimited competition, though producers are motivated, as under monopoly and limited competition, by the desire for maximum profits, that desire almost never leads them to cut down production for the sake of keeping up prices. The point is best illustrated in farming, with its six million independent producers. Since each of them turns out only an infinitesimal fraction of the product, restriction will not affect price. At any given price he will get more for a large crop than for a smaller one, and nothing that he does individually is going to affect the price at all. Therefore there is not the same quick adjustment of production to changes in demand that characterizes monopoly. There the producer stands with his hand on the throttle ready to cut down the power at any indication of a lessening possibility of profitable sale of the product. The essential point for our purpose is that production under prices thus administered is directed by producers who consider the possible effect of their action on prices; under market competition, by producers who do not consider it.

Prices under Unlimited Competition

How, then, are prices made under unlimited competition? To this question there is not one answer but several, depending on the length of time involved. The forces which determine the supply that comes to the market at any given moment are not identical with the forces which are at work over a long period. Moreover, one difference exists here, and must receive attention, which did not trouble us as we followed the actions of a monopolist. We must look at the circumstances of the individual producer and of the industry as a whole. Under conditions of monopoly no such division is necessary; the individual producer *is* the industry.

To answer the question for the moment of marketing, let us abstract every complicating matter and assume a large number of small producers—not necessarily of the same size, but none of them large enough to turn out a significant fraction of the whole output. They all make the same product, to be disposed of in a single market. In any given state of demand the price, plainly enough, will depend on the quantity offered for sale. The larger the quantity offered, the lower the price must be if it is all to be sold. Ultimately the quantity offered for sale will be identical with the output. It has all been produced for sale and will be sold, at slaughter prices if necessary, rather than destroyed or given away. The stock of goods is in existence; the market

supply—that is, the amounts which sellers stand ready to sell at a series of prices—will depend on the needs and the judgment of a multitude of producers, each of whom may offer to sell at once or refuse to sell, according to his special circumstances. For one the need for money is so great that he offers his entire stock at any price; another, believing that in a few days the price will rise, reserves his output; a third, though he also believes that the price may rise, has no storage space. The market supply schedule is the sum of the individual offerings, some coming from producers frantic to sell at once; others, from producers so indifferent that they can hold back their offering if the price seems to them unduly low.

In order to present the problem as simply as possible, let us set it forth in the form of an ordinary demand-and-supply schedule for a particular commodity in a particular market on a particular day.

Demand-and-Supply Schedule of Corn

AMOUNT PURCHASED	PRICE	AMOUNT OFFERED
10,000	40	50,000
12,000	35	50,000
15,000	30	30,000
20,000	25	20,000
30,000	20	10,000
45,000	15	5,000
65,000	10	0

How did it happen that all the producers together were willing on this day to sell the total amounts set down at the various prices given? This schedule, used simply for illustration, has been based on the following purely arbitrary assumptions, which of course might be varied at will, thus yielding other schedules. First, production is at such a rate that producers cannot make available for sale on a certain day more than 50,000 units. Secondly, price for a considerable time has been in the neighborhood of 25 cents, with occasional upward movements to 30 cents, almost never reaching 35, and never going higher. Thirdly, average costs of production vary among different producers, ranging all the way from 15 to 30 cents. Fourthly, the financial strength and needs of the various competitors differ markedly—some of them being able to wait for what they think a fair price, others being obliged to sell quickly in order to meet pressing obligations.

These assumptions explain the schedule. If price has habitually been 25 cents, then everybody will expect normally to get as much as that and will not sell below that figure unless he is obliged to, no matter what his costs. If, then, there are producers who would be willing to dispose of 10,000 units on this particular day for as little as 20 cents, it must be because for various

reasons they need to make prompt sales. Therefore they are willing to take a loss of 5 cents by comparison with what they believe they could get by holding for later sale. Producers who would sell 5000 units for as little as 15 cents must be in serious financial straits. Otherwise they would not sell at such a sacrifice, but would wait for a higher price. We have assumed that nobody, no matter what his difficulties, would be induced to sell for as little as 10 cents on this day. On the other hand, if 25 cents had been a common price, then 30 cents, according to our schedule, would be enough to bring into the market on this day an additional 10,000 units (to make a total of 30,000). This amount would be sold by producers who think this the maximum price they are likely to receive. Some of them therefore sell from stock, perhaps impairing their ability to furnish their regular quota in future. Thirty-five cents is as much as anybody hopes to get. At that price all the producers would throw their reserves into the market. At 35 cents the quantity offered for sale would therefore be as great as at any higher price.

What we are trying to illustrate by this example with its arbitrary assumptions is that under unlimited competition it would be possible, if the facts were known, to build up a supply schedule more or less analogous to a demand schedule. Such a schedule would represent in total the amounts that all producers would be willing to sell at the various prices set forth. Plainly, the situation differs sharply from that prevailing under administered prices, where the producers set the price and adjust their production to possible sales at that price. Here, by contrast, they have produced the goods and sell them for what they will bring in the market.

Recurring to our schedule, we find that the price would be 25 cents and that sales would be 20,000 units. At any higher price the quantity offered would exceed that which would be taken, and buyers would quickly reduce their bids. At a lower price the quantity offered would be inadequate to meet the amount wanted at that price, and the more eager buyers would bid the price up to 25 cents. Thus the price is fixed at the point that brings demand and supply into equilibrium. At this price all the buyers who are willing to pay this amount can obtain the commodity, and all the sellers who are willing to accept this amount can sell. This is the ordinary theory of price determination, which we apply only to unlimited competition. We thus distinguish sharply between the making of market prices and the making of administered prices. Both alike depend on demand as their essential condition. The conditions of supply, on the other hand, are so widely different as to bring about fundamentally different methods of adjusting price and supply to demand, thus giving us two essentially different sets of prices working in different ways.

Prices and Costs

The Short Period · In the discussion of competitive prices up to this point we have given no consideration to costs. We could omit them because we were dealing with the temporary or short-time determination of prices, and costs have little to do with it. A producer's decision to sell or not to sell at a particular price does not depend on his costs. No matter what his goods cost, he will have to sell them for what he can get. Once goods are made, they must take their chance on the market. The producer's only option is to sell now or to sell later. Sell he must. We have assumed in the illustration that average costs ranged all the way from 15 to 30 cents. If now the price were 25 cents, as assumed, all the producers whose costs were below that figure would be making a profit, while the 30-cent producer would be incurring a loss of 5 cents. The producer whose cost is 30 cents may decide that he will not sell for less than that price, but his decision will not enable him to get that amount. Suppose that his possible contribution is 500 units a day. Then of the added 10,000 that would be forthcoming at 30 cents, but not at 25, he would furnish 500. But as long as 20,000 units a day are offered at 25 cents, in the condition of demand here assumed, the price will be 25 cents. Our 30-cent producer may keep on asking 30 as long as his breath holds out. While demand remains unchanged he cannot get it, because all the people who are willing to pay as much as 25 cents can get for 25 cents the 20,000 units they want at that price. Those among them who would pay, if necessary, as much as 30 cents for 15,000 of the 20,000 units can get their 15,000 at 25 cents, and therefore are not going to pay any higher price. The only way in which any producer can sell his goods, no matter what they cost, is to offer them in the market at a price at which consumers are willing to take the whole amount offered at that price. If any producer's cost is above that price, all he can do is to bear his loss with the best grace he can and lay his plans for the future in the light of his experience.

At the other extreme, producers whose cost is only 15 cents are not going to sell at 15 cents if they can get more. The total amount that they and all the others are prepared to offer at 25 cents is 20,000 units, which can be sold at that price. Therefore they will sell their output at 25 cents and will gladly pocket the profits; but in view of the happy outcome, they may well consider whether they will not increase the scale of their business in order to make yet more profits.

The concluding sentences of the two paragraphs just preceding serve to suggest the real relation of costs to prices. Instead of being the direct cause of prices, as is commonly believed, costs affect them not immediately but only indirectly and over a period of time. According as their costs are above or

below prices, producers are led to decrease or increase their output. Thus smaller or larger quantities of goods tend to come into existence, and as a result the amounts later to be offered for sale tend to be decreased or increased. Profits tend to encourage production; losses, to discourage it. Low costs, making for profits, tend to increase production and thus later, to lower prices, while high costs work in the opposite direction. But no notion can be more naïve than the idea that costs simply and directly *determine* prices. It is indeed far nearer the truth to assert that prices determine costs, although that statement is correct only when carefully limited.

The Intermediate Period · Prices are more intimately related to costs, however, under unlimited competition than under monopoly. To establish that statement it is necessary to examine first the action of an individual or a firm in the intermediate period, that is, the period in which a stock of goods can be increased with existing equipment. No firm is given time to increase its equipment. No new firm is given time to enter the industry. What determines the producer's output? All businessmen, as businessmen, desire to make the greatest possible amount of profits. That is true whether they are monopolists in the aluminum industry or sellers of popcorn. The individual, in determining a production program, finds that the volume at which his marginal cost and marginal revenue coincide is the volume of maximum profit. His rule is exactly the same as that of the monopolist. If he carries production beyond this point, each additional unit adds more to his costs than it adds to his revenue. If he halts production before he reaches this point, he loses a potential profit. We already know that, for this individual, marginal revenue and average revenue (price) coincide (p. 243). We are thus able to say that in the intermediate period a competitive firm will maximize its profits by producing the output at which marginal cost equals the market price. For this firm during this period the supply curve is identical with the marginal-cost curve. For the industry as a whole the supply is the sum of the individual supplies. The supply curve will be the marginal-cost curve.

Market price in the intermediate period is the price which equates the demand with a supply thus determined. In our reasoning we assumed an existing demand and an existing or an expected price in the market. We assumed individual producers, desirous of maximizing profits, who adjusted output at the point where marginal costs and marginal revenue coincided. The costs which concern them must be their variable costs. Fixed costs, by their very definition, will not add to their total costs as they increase their output during this period.

The Long-Run Period · The third possible time period is that in which firms may expand their facilities or new firms may enter the industry. Here

the complications are greatly increased. In deciding whether to expand or not a firm must consider whether future prices will cover long-run average costs. Those costs, as we know, may be decreasing, constant, or increasing costs. If it were possible for an average cost curve to decrease continuously, the firm could enter upon a continuous expansion. Eventually it would be so large that limited competition or monopoly would have taken the place of competition in the industry. We may conclude that we are not likely to find decreasing costs in competitive fields, and may dismiss this possibility. The other possibilities are those of increasing costs and of constant costs. In the long run, average costs and price tend to be equal. If these costs are less than price, new firms will enter the industry, and the enlarged supply will force the price down. If they are greater than the price, firms will drop out, the supply will be reduced, and the price will rise. But it is just as true here as in the intermediate period that the output offering greatest profit will be the output at which marginal cost and marginal revenue coincide. The only difference is found in the more inclusive costs involved, which, in the long run, must take into account fixed as well as variable expenditures. That is, all costs become variable costs.

If price in the long run must correspond to average cost and if this is the point where long-run marginal cost and marginal revenue coincide, the firm in the long run will carry output to the point where price, marginal cost, and average cost are the same. For the industry, price must be at least as high as the average cost of all firms that sell their goods in the market.

The difference that should stand out, even in this brief summary, is that (1) for the shortest period, with sellers ready to sell goods already produced, costs play small part in determining supply; (2) in the intermediate period, when sellers may adjust rate of output to what they believe price will be, they will extend output to the point where marginal revenue and marginal costs are equal, but these marginal costs will ignore fixed costs; (3) in the long run, price must cover the average cost of any firm which is to remain in the industry. Here too producers extend output to the expected balance between marginal costs and marginal revenue, but the costs will include fixed as well as variable costs.

This offers in skeleton form, the analysis by means of which the economist attempts to explain the price-making process in competitive industry. Incomplete and therefore inaccurate as it must necessarily be at this point in the student's work, it is worth while to see what it means in terms of production. Let us assume that for some reason demand has decreased with a resulting fall in price. The market price fails to cover the costs of the goods now on the market. The adjustment of this situation must come from a change in the rate of output of producers. How will producers respond to it?

Marginal Producers

We have already discussed marginal cost of units of a product as distinguished from average cost, and have defined marginal cost as the cost added to the total cost by producing additional output. In this sense each producer has marginal costs. We now use the term *marginal* in a slightly different though a closely related sense. In any competitive industry there is likely to exist a greater or less range of average costs among the various producers. The producers might thus be ranged in a scale of costs, at one end of which would be those whose low average costs gave them, perhaps, a high profit, up through a series of higher-and-higher-cost producers, getting smaller and smaller profits, until the so-called marginal producer is reached, whose costs eat up the entire price he realizes. Our scale would not, in reality, stop even here; for beyond this so-called marginal producer whose average costs are just covered by the prevailing price there would probably be at almost any time yet others whose costs are above the prevailing price, and who are in the process of business failure through inability to cover expenses. They are submarginal producers, but are still actually producing.

If a particular price becomes usual in an industry, those producers who cannot get or keep their average costs down to that figure will in time be forced out. The output of the industry will be lessened by the amount of their former contribution. The price will be the price at which the new output can be sold. The highest average cost covered by the price is the marginal cost. It is sometimes said that marginal cost determines price, but in fact price more nearly determines marginal cost. Price tends to equal marginal cost, but only because producers with higher costs are eliminated. If demand were to increase so that a larger quantity could be sold at a higher price, then a part of that larger quantity would probably be turned out by producers whose costs were higher than the old price and are actually equal to the new one. The increase of price would thus bring in its train an increase in marginal cost for the industry. A fall in demand, bringing about a fall in price, would make operation unprofitable to those who had been marginal producers at the old price. If the condition continued permanently, and they had no means of getting their costs down, they would have no alternative but to stop production. The marginal producers would now be those whose costs equaled the new lower price. While prices in industries of unlimited competition are thus equal to marginal costs, they are not determined by such costs.

Marginal costs have been defined as the costs that are just covered by prices, and the marginal producer as the one whose average costs are thus covered. The general principle (fundamental, and correct when properly interpreted)

is that if his costs cease to be covered, he will stop producing, because obviously he cannot keep on indefinitely at a loss. But in fact the situation is by no means so simple as this statement makes it appear. The principle that marginal cost is the utmost limit to which price can fall without constituting an effective obstruction to production is subject to important practical limitations.

Fixed and Variable Costs

In the first place, as we have seen, the definition of "marginal costs" differs for different time periods because of the important distinction between fixed and variable costs. Fixed costs we know as those which are unchanging through a considerable time period whether much or little business is done. Such are interest on bonds, insurance on plant, taxes, and the like. Such is the rent of the local merchant, who has to pay what he has agreed to whether he does any business or not. Such are many of the expenses of the farmer. Variable costs are those which vary in close relation to the amount of business done, even if not in strict proportion to it. To reduce operations is a means of reducing variable costs, but it does not affect fixed costs. It was this distinction which made it necessary to distinguish intermediate and long-term periods in our brief theoretical statement. Here we follow its operation in practice.

A small shoe-manufacturing company with a capacity of 100,000 pairs a year has fixed costs, we will assume, of $100,000 a year, consisting of $40,000 annual interest on its outstanding bonds and $60,000 of other fixed charges—covering such items as taxes and insurance on its building; upkeep of plant; the selling, supervisory, and office expenditures that have to be incurred whether much or little business is done; and all the other expenses that remain practically unchanged no matter what the scale of operation. Variable costs, to make the matter simple, we will assume to consist solely of payments for materials and wages, and we will further assume them to run uniformly at the rate of $3 a pair. If the factory runs to capacity, its variable costs will come to $300,000 ($3 each on 100,000 pairs). Add fixed costs of $100,000 and the total will be $400,000. If the company gets $4 a pair, its costs will be just covered, without leaving any return for its stockholders. Still simplifying the illustration, we will assume that the stockholders are all officers of the company, and as such in receipt of fixed salaries, which salaries are part of the fixed expenses. They can therefore at need continue running even though they get no dividends on their stock, since they can live on their salaries. Under the conditions this company is plainly a marginal producer at $4 a pair. Strictly speaking, indeed, it is submarginal, since its stockholders

are getting no return on their capital investment. At $4, only its necessary expenses are covered. Obviously the shareholders are not satisfied with the failure of their invested capital to yield returns, but they can find no remedy. (We are, of course, here assuming that all the means of economical production open to the plant are in use.) The only way whereby they individually can escape from this losing venture is to sell their shares to others, thereby merely transferring the ownership of unremunerative capital. But for shares which promise no return there is small sale. And even if the owners could and should sell, the problem of the submarginal firm would be completely unchanged. The $100,000 which has been spent for the plant of this shoe factory is irrevocably invested in the making of shoes, and so long as the making and selling of shoes can go on at prices sufficient to pay the other expenses of the firm, the lack of returns to the shareholders will not cause the factory to close and the supply of shoes to diminish. The student at this point may ask whether this can continue forever. Is capital never transferred from concerns or industries which pay nothing to those which yield returns? Yes, but the process is a long and painful one. As it becomes evident to directors that nothing can be done to revive the dying firm, they fail to make provision for depreciation and obsolescence. Annual wear and tear is not restored, and little by little the plant deteriorates until it can no longer be used. Capital which might have kept it in condition goes into outlets which offer returns, and finally the shoe plant is closed. But during the long time which it took to die it was sending to market shoes which did not sell for enough to pay their entire cost of production, including a return to capital in the cost, and those shoes, by maintaining the supply, were helping to keep down the price of shoes.

Thus far we have assumed that the price of shoes paid all expenses, both fixed and variable, except a return to shareholders. Let us consider a more disastrous situation, one in which the price fails to cover the fixed costs enumerated in the statement of the conditions under which the factory operates. Suppose the price falls to $3.75 a pair. Will the company now stop producing? Plainly not. If it goes on turning out its full output of 100,000 pairs, it will lose $25,000 during the year; but if it shuts down the plant it will lose $100,000, because its fixed expenses continue though the plant is closed. The smaller loss is preferable to the greater one, and if the directors of the concern believe that prices will return again to a paying figure, they will prefer to keep the plant going temporarily at the smaller loss rather than close it down temporarily at the greater loss. It is better to lose only $25,000 than $100,000. As long as shoes can be sold for anything more than the $3 a pair which constitutes the variable expense, something will be left on each

pair toward the fixed expenses. Further, since each pair sold will contribute something, the more that can be turned out the better, and the factory will run to capacity if a market can be found for the product.

The principle here illustrated is of the utmost importance. Temporarily any producer will continue production if price does anything more than cover his variable costs, though it comes far short of meeting his total costs. Moreover, the higher the proportion of fixed to total costs the further may price fall below total costs before he will stop producing. Consequently, in an industry like farming, in which fixed costs make up a large proportion of the total, it is possible for prices to fall to a point ruinous for most producers and remain there for a period of years without bringing about the lessening of production called for by the marginal theory as usually set forth. Not only the marginal producer, as ordinarily defined, but a large proportion of all producers may go on for years producing at a loss because they would be even worse off if they stopped producing altogether. Meanwhile, of course, they are trenching on their capital, like the farmer who mortgages his land to raise funds for continuing operations in the desperate hope of better prices. Putting the matter generally, the price at any time may be below total costs, and may even go down to the point where it covers only variable costs, without bringing about a significant reduction of production. The producer may continue production at the old rate as long as he hopes for a return of price to a profitable level, and as long as his capital holds out so that he can carry his losses or as long as he can find a lender who will extend credit to him. Thus the principle that prices must cover cost or the supply will be cut seems to apply only to variable costs. Can we accept this statement with no further question? Producers make decisions involving different periods of time, and just here time becomes important. The shoe company is called upon to decide what volume of shoes it will put on the market during the autumn of the current year. The facilities which are employed are all in existence. The only question is what per cent of existing plant capacity is to be used. Fixed costs are largely ignored in deciding this question. The second decision concerns an increase in capacity. Shall the plant be expanded so that in two years output can be increased beyond present possibilities? The cost considerations are by no means the same. We know that the existence of the plant implies certain fixed costs which must be paid no matter what the output, and that production will be carried on if variable costs are covered. However, the enterpriser who is taking a long look into the future will decide on expansion only if he believes the future price will cover all costs. It is true, of course, that when his output actually goes on the market he may be bitterly disappointed. Costs incurred in expanding the plant may never be covered by the

price, but the hope that they would be was the incentive which brought about the addition to the supply. Thus when we are dealing with the intermediate period we are concerned with the relation between variable costs and price; in the long period the costs which are the basis of calculations are total costs. This is to say what was said on pages 272–273: in the one instance marginal costs are the variable costs; in the other they include fixed costs.

Joint Costs

In the second place, the application of the principle is restricted by the occurrence of joint supply and joint costs, that is, costs jointly incurred in the turning out of two or more products the amount of one of which cannot be changed without changing the amount of the other. A simple and admittedly imperfect illustration will help to make the principle clear.[1] A farmer grows a sheep, yielding both wool and mutton, at a cost of $12. Leaving out of account the expense of shearing and of slaughter, the entire cost of the two products is a joint cost. How much did the wool cost? Nobody knows or can know. All that we know is that wool and mutton together cost $12. There is no way of disentangling their costs. In fact, they have no separate costs. You cannot produce one without the other.

Suppose that the farmer, nonetheless, insists on arriving at a figure of wool costs. The cost accountant will accommodate him, although he will not pretend to change the state of facts set forth in the preceding paragraph. But suppose that the wool sells for $2.50 and the carcass of the sheep for $12.50. One sixth of the entire receipts comes from the wool, and five sixths from the mutton. The accountant then may proceed to allocate the $12 of costs in the same proportions, charging $2 to the wool and $10 to the mutton. There is no objection to the procedure, of course, as long as its artificial character is realized. If the following year the wool brought $3 and the mutton $12, and the cost accountant accordingly put the cost of the wool at $2.40 and that of the mutton at $9.60, instead of the earlier figures of $2 and $10, that also would be correct, but nobody would imagine that the actual cost of producing wool and mutton had changed. The accountant, for whatever good reason, is simply choosing the best method he can of breaking up what is in fact a single cost.

Plainly, if sheep are grown for both wool and mutton, there is no real

[1]The illustration is imperfect, because the farmer might by varying the feed he used change the amount of mutton without affecting the amount of wool. The essence of the problem of joint costs is the fixed proportion of the two products. Many costs may be called common costs which are not actually joint costs.

meaning to the statement that the price of wool must cover the marginal cost of producing it, for there is no real meaning to the phrase "the cost of producing wool." On the other hand, the phrase "the cost of producing wool and mutton" has a definite meaning in those enterprises that produce nothing but sheep, and for them we can make a significant statement. The price of wool and the price of mutton together must cover the cost of growing sheep. Otherwise the farmers will have to stop producing sheep, and their contribution to the supply of both wool and mutton will be lost. A high price for mutton might make possible a low price for wool, while a low price for mutton might necessitate a high price for wool. The combined price of the joint products must cover the single cost of producing them.

The same situation prevails throughout the whole range of joint products like wool and mutton, and in only lesser degree of the other products which, though not strictly joint products, yet involve cost situations similar to joint costs in their production, like the various products of a single factory. It is impossible to assert that such a product will not be turned out unless its marginal cost of production is covered, because there is no way of knowing what its cost of production actually is. It is possible to assert, within limits, that the establishment producing it will not continue production unless the prices received for all its products together cover the total costs of the entire production, as well as any particular costs that can be traced to particular products.

Such intermingled costs, analogous to joint costs but without the proportional relationship, enter into the creation of a large part of the products of contemporary industry; for the establishments that turn out a single uniform product are rare. It is practically impossible, for example, to say what any particular agricultural product has cost its producer. It cost a farmer a thousand dollars to run his farm last year. It yielded certain quantities of wheat, corn, oats, hay, hogs, cattle, potatoes, apples, and eggs, to mention only part of its products. What did it cost him to grow a bushel of wheat? a ton of hay? a dozen eggs? There is no answer. A modern coke oven produces not only coke but a dozen coal-tar products that used simply to be driven off into the air and wasted. How much does each of them cost? Nobody knows. A packing plant today produces not only scores of different cuts and qualities of beef, veal, mutton, lamb, and pork, not only hearts, livers, brains, tongues, lard, tallow, stearin, oleomargarine, gelatine, and other edible products, but also hides and skins, pulled wool, and products from the sinews, fats, blood, glands, viscera, and bones—products going into commerce as leather, brushes, soap, casings, strings, glue, animal and poultry feeds, fertilizers, pharmaceuticals, and many other things. What does it cost a packer to turn out a pound

of prime porterhouse steak? He does not know, and no one knows so well as his cost accountant how little he does know.

Many office costs and administrative costs of a manufacturing establishment, to say nothing of its expenditure for power and other general purposes, are in the nature of common costs. There is no way of determining what part of the common costs is caused or occasioned by a particular product or a particular lot of goods, because, in fact, such costs are costs of the business as a whole. As an accounting device a certain part of such costs may be allocated to the particular goods, but that is purely a bookkeeping measure. It did not make those particular goods cause that particular part of the common costs.

Needless to say, a well-managed business undertaking will do everything possible to discover as far as it can the costs at which its various products are turned out, in order to discover where profits lie. Well-devised cost-accounting systems can throw much light on the question. Much cost allocation, it is true, like that illustrated in the sheep and mutton of our first example, is entirely artificial, but there are important expenses, notably material and direct labor costs, that can commonly be traced to individual products. The better the accounting the more is the business manager likely to know about his particular costs. Yet when the complexities of costs are explored, it becomes apparent how naïve and meaningless in most instances is the idea that the price of any one product must cover its marginal cost of production. It is not in this sense that the marginal principle is to be interpreted. It is the establishment, not the particular product, that must cover expenses. This is not to deny the usefulness of the economist's analysis, but only to point to the difficulties inherent in the attempt to follow the working of the principle in business affairs.

The Ignorance and Indifference of Producers

Further, many small businessmen, farmers and others, have no reliable accounting system and much of the time do not know whether they are making or losing money. Frequently they have only the most shadowy notion of their financial status. They are engaged primarily in "making a living," and if they manage to do that they do not inquire too narrowly into the profitableness of their operations. They may go on for some time failing to get a reasonable return on invested capital and a fair return for their labor, thus incurring a loss on the basis of any proper accounting. As long as they "get along" they keep at it, not so much as knowing that they are submarginal producers and as such should be dropping out of the market with their goods.

Ignorance rather than self-interest keeps them producing, even though the price of their products does not cover the cost of production. There are also those who cling desperately to losing businesses even though they very well know the state of their affairs. Many small manufacturers and merchants, as well as farmers, continue doggedly to do business at a loss until they are wiped out by bankruptcy. Such men are influenced by motives more potent than the economic considerations which, working alone, would have induced them to withdraw from production.

The persistence of this group of submarginal producers makes it possible for an industy to be carried on for a period of years at prices that are below the average cost of production of large numbers of the producers. During such a period the capital resources of the businessmen concerned may in considerable measure be in process of transfer to their creditors, as was true of our farmers during many of the years between the two World Wars. It thus appears that in industry failure to cover average costs does not check production as rigorously or as rapidly as theoretical analysis seems to imply. There will always be submarginal producers who, ignoring the warnings of their cost-price relationships, continue to produce in defiance of their own economic interests. The end will be bankruptcy; but that end comes slowly. These limitations, it will be noted, do not invalidate the marginal-cost principle, but do suggest the necessity of caution in interpreting and applying it. Clearly it does not mean that every producer immediately stops producing the moment his costs are not covered by prices received or anticipated, and that maximum costs in an industry are thus constantly and automatically covered. On the contrary, there is rarely a time in any industry of unlimited competition when some of the producers are not losing money.

It may appear doubtful whether much is left of the principle that price must cover marginal costs, and that the producer who cannot cover his costs will stop producing. As to prices and costs over any short period of time, the skepticism is abundantly warranted. There is no necessary relationship between them. Marginal costs do not constitute a limit below which price cannot fall without causing an immediate lessening of output and a consequent prompt return of price to the point where it covers costs. Nevertheless, ultimately there will have to be a readjustment of prices and costs. The process of going into debt cannot continue forever. For considerable periods of time the need to make something toward fixed costs, and the unbusinesslike action of producers, may keep production so high, and prices consequently so low, that large numbers of them operate at a loss. Yet over a sufficiently long period price must cover the total costs of the marginal producer, which is another way of saying that over a long period the producer who cannot bring

his average expenses within the limits set by price will have to stop producing. In asserting, then, that prices under unlimited competition tend to approximate marginal costs, we do not deny that for years they may, in fact, cover only variable costs, and may even be below the highest variable costs to be found in the industry. We simply assert that over a sufficiently long period the production of goods in industries of unlimited competition is kept down by the business extinction of those producers who cannot keep the total of their average costs down to the prices that can be realized. The costs of those who just cover expenses are marginal costs, and they are marginal producers.

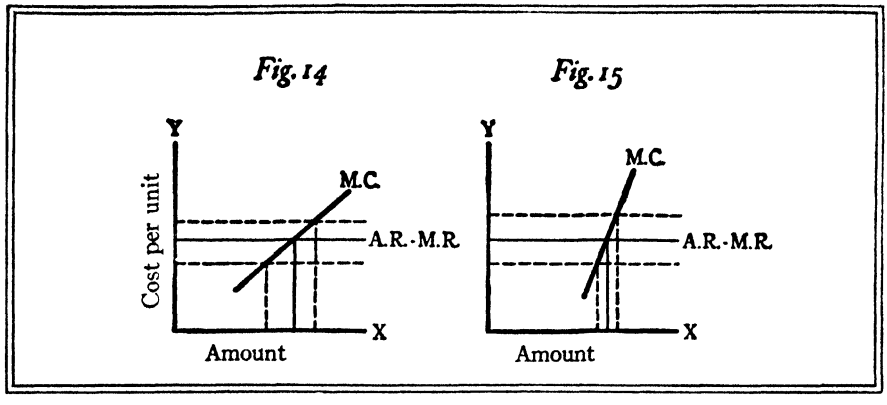
To summarize: under unlimited competition no producer turns out an appreciable fraction of the total output, and therefore no one can affect the price by varying his production. Hence the producer is guided in his production policy primarily by the relation between his costs and prices. Producers who cannot cover their costs will be obliged, within the limits suggested, to stop producing, while those whose costs are low may be encouraged to enlarge their output. Thus a certain production-price equilibrium tends to be established, and marginal costs over a period of time tend to a rough equality with prices. In this sense prices are cost prices.

Graphic Representation of Competitive Price-Making

To the individual producer who offers the market an infinitesimal part of the total which will be sold, the demand for his product appears to be completely elastic at the market price. He can sell all that he can produce without in any way affecting the price. His average revenue and his marginal revenue correspond to the price, and are represented by a horizontal line. All his calculations are made with the knowledge that nothing which he does will change the existing price. He has, then, every incentive to carry production to the point where the price covers the marginal cost, which we remember is, in the intermediate period, the variable cost only. His supply curve will be this marginal-cost curve. If the price were higher, his output would be determined at the new intersection point of marginal cost and marginal revenue; if it were lower, acting as an "economic man," he would produce less, as is shown by Fig. 14.

Fig. 15 shows the same relationships, the only change being the substitution of an inelastic supply (marginal-cost) curve for the more elastic one of Fig. 14. It is at once obvious that, given an inelastic curve, a considerable change in price will make small change in the output of the individual producer.

The supply curve of Fig. 14 is assumed to be an infinitesimal element in the total supply curve. When we turn to the market as a whole, we are deal-



ing with the sum of all supplies which will come to market at a series of prices. The tendency will be for the price to settle at that point at which all producers willing to sell at that price will find buyers and all buyers willing to buy at that price will find sellers. It is the condition described on page 270, and represented by Fig. 16, where the point of intersection of the demand and the supply curve indicates the equilibrium point or market price under existing conditions. The supply curve indicates the differing degrees of urgency which induce sellers to throw their supplies upon the market, or, as it is sometimes put, the differing "reservation prices" they place on their stocks of goods. Suppose the market demand increases with supply unchanged; the price will be higher, the amount purchased greater (Fig. 16). Suppose the demand falls; the price is lower, the amount exchanged less. Increase supply with no change in demand; the price will fall, the amount exchanged will increase (Fig. 17). The student may vary the conditions and find for himself the effect produced by shifts in demand, in supply, and in both at the same time. He may also with profit vary the elasticity of demand and supply curves and observe the results on price and amount of sale.

We have been considering here only short-time conditions. Let us consider briefly long-time conditions of supply, when relations between cost and price influence decisions as to output, which, in turn, help to determine a new equilibrium price.

We start from a condition of equilibrium and assume an increase in demand which promises to be permanent. The immediate response is an increase in price, because the rate of purchase corresponding to the new demand is greater than can be satisfied by the rate of production profitable at the old price. Encouraged by the increased profit resulting from the higher price, existing producers will expand production and new producers will be tempted into the field. If such expansion can be achieved, after a sufficient lapse of

Fig. 16

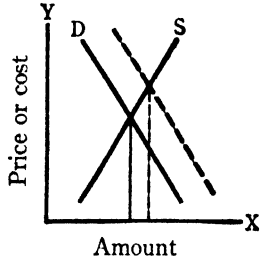
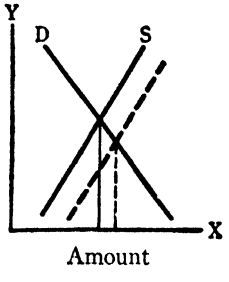


Fig. 17



time, without any increase in the marginal cost, competition among old producers and new will drive the price to its original level, that is, one at which it is equal to marginal cost. If, as is far more likely, marginal cost increases as a result of expansion, the new equilibrium price will be higher than the old one. The new firms entering the industry may produce at higher costs than the original concerns did, and the new price must be at least as high as the increased average cost which results. The third possible condition, that of decreasing costs, is ruled out by our assumption of an equilibrium situation under conditions of perfect competition—a situation incompatible with conditions of decreasing costs.

CHAPTER SIXTEEN

Supply: Limited Competition

IN THEIR treatment of price, economists ordinarily have dealt with prices under competition as being in some way natural, or, as it is often put, "normal." Monopoly price has been treated as though it were something exceptional and abnormal. Further, the competitive prices that are assumed to be normal are those set by a large number of small producers, such as are found in certain industries, and not those set by a small number of large producers, such as are found in many industries. These assumptions have no adequate basis in fact. In our introductory chapter on capitalism we pointed out the pervasiveness of competition in an economy characterized as ours is by free enterprise. The existence of competition as there suggested, however, affords no warrant for assuming that there is anything any more "normal" about the price of wheat, fixed by the competition of millions of small producers, than about that of automobiles, fixed by the competition, or lack of competition, of a handful of great manufacturers, or that of hard coal, fixed for a generation by a monopoly. It is the most natural thing in the world for a producer of any kind to get a monopoly if he can, and it appears to be no less natural in certain lines for a few concerns to dominate production and to fix prices with a view chiefly to the actions of one another, with little regard to what possible small competitors may be doing. We chose to treat price determination under monopoly first, because it is simpler; and we followed with an examination of the way in which prices are determined under unlimited competition. We are now to consider what we have called limited competition.

We first note that monopoly and competition, though separate in conception, are not entirely separate in fact. Even the absolute monopolist is never wholly free from competition. Competition exists not only between different producers in the same industry, turning out substantially the same goods, which is the ordinary idea of competition, but between different commodities, one of which may be substituted, albeit unsatisfactorily, for another. There is competition, too, between goods utterly different from one another and wholly incapable of substitution. A person decides, for example, to spend fifteen hundred dollars for a surgical operation and subsequent hospital treatment to overcome a physical handicap, rather than for a trip to Europe or a

good car. The competition of these three ways of spending one's available money is just as real and significant as the competition of two grocers selling soap in adjoining buildings. The power of substitution is nothing else than the competition of other goods for the buyer's dollar. Every monopolist has to meet it.

The Monopoly Element in Competitive Business

On the other hand, even in extreme cases of competition we often find a monopoly element. A small tradesman may be able to charge higher prices than his competitors, because he has established a reputation for absolute reliability and ungrudging service. A fruit-grower may command a premium price for his fruit, because he has demonstrated that it is always of the highest quality. If the buyer prefers one seller to another, unlimited competition does not exist.

The monopoly element in competitive business deserves more attention than it usually gets. The businessman knows its importance, even if his customers do not. Where the products made by competitors, whether many or few, are not identical, each producer has a monopoly of the distinctive features of his own product. In the competition among the low-priced cars, each of the three leading makes has its exclusive features—some of them perhaps important, some of them mere talking points. "All-fluid drive," "sealed beam headlights"—what buyer is not too familiar with these impressive phrases? Be the differences important or unimportant, each producer exploits the distinctive characteristics of his product to the utmost. As far as he can he creates the impression of uniqueness in the mind of the buyer. As far as he succeeds he puts himself in the position of a monopolist with the exclusive power to sell that particular thing (not the whole product, just the unique characteristic). Even the casual reader of automobile advertising will realize how largely it is of this character. Of the same sort is that whole body of advertising designed to create a preference for this or that tooth paste or dry cereal or underwear or what not, on the ground that it is different from all others (and of course superior to them) in this or that particular. The same is true of brands, of distinctive packages and containers, of all the paraphernalia of present-day business that enables one producer to differentiate his product from all others in the minds of possible buyers. It makes no difference whether the distinction is real and substantial or whether it exists purely in the intellectual and emotional world of the buyer. A glance along the shelves of any grocery or a few hours spent listening to radio advertising show the extent of this form of limited competition. Each producer is endeavoring to

emphasize some characteristic of his product over which he hopes to establish a monopoly. For many years a certain soap was advertised as "$99\frac{44}{100}$ per cent pure." As a result thousands of men and women today still have a sneaking suspicion that this soap is really "purer" than other soaps, though they know better and anyway have no notion what is meant by a pure soap.

As far as such a difference exists, the fortunate producer is selling a monopoly product (the distinctive characteristic). Irrespective of the action of his competitors, he can set his price for that product at the point that he believes will yield him the maximum net return. In so far he is a monopolist. Largely because that power is so valuable, businessmen are willing to spend billions annually on advertising. The canning factory putting out a new brand of tomatoes wishes to convince the consuming public that these tomatoes are a little better than any others on the market. In order to differentiate this product from all others, the firm spends immense sums to keep the name "Miracle Tomatoes" before the public. Every other canner is doing much the same thing for the same reasons. The result is that the costs of the industry, which, in the long run, prices must cover, are increased enormously by the effort of each firm to establish a little piece of monopoly for itself. This explains the great value of well-known trade-marks and trade names. To millions of possible buyers all over the country they connote something distinctive, if not in the ordinary sense of the word, yet distinctive in being standard, dependable, in a way that an equally good but unknown product is not. The producer therefore can sell his product at a higher price, because the scales are weighted in his favor.

This quasi-monopolist is free from the limits of the completely elastic demand curve. He will not lose his entire body of consumers if he raises his price, as would the producer in a purely competitive industry. For the firm in a competitive industry marginal costs and price tend to be the same; but once the producer can establish in the minds of consumers a belief in the superiority of his product, he is freed from the limits imposed by competition, and a price higher than marginal costs may be established. But the price cannot rise far. Substitutes lie all about, with many voices to shout their excellence. Though a producer, having gained a small measure of monopoly power by distinguishing his product from other products, no longer regards his demand curve as completely elastic, he must remember that it is by no means as inelastic as is the demand curve for the entire industry. The seller of Miracle Tomatoes might raise the price of a can by four cents without losing his customers. He could hardly raise it eight cents without inducing many family purveyors to try Superb Tomatoes. Should they prove equally palatable, he has by his price sent customers to his rivals. The conclusion is that when a distinction

among products is established, prices will be higher than competitive prices would have been, but probably not so high as if the article had been produced or sold under monopoly control.

Such situations are sometimes described as conditions of monopolistic competition, the name being designed to emphasize the existence of monopoly elements in most competitive business. Our use of a different term, *limited competition*, should not obscure the fact that the limitation results from factors making for monopoly within industries considered competitive.

Competition of a Few Firms

Insofar, then, as buyers prefer one seller to another for reasons apart from price differences, and insofar as differentiation of product has been established in any area, unlimited competition does not exist. Nor do we have competitive conditions in situations in which there are two or three or any small number of producers of the same goods, or services or products easily substituted for one another. Three small grocers may divide the business of a little town. A handful of automobile manufacturers supply the millions of new cars that we annually buy, the big three of them having sold no less than 88 per cent of the cars marketed in 1934. Half a dozen gigantic steel concerns make three quarters of our standard steel. Three copper companies supply 80 per cent of our copper. Absolute monopoly is rare; but enormous areas of industrial activity are dominated by the activities of a few big companies. Thus, much competition is competition among a handful of concerns, each doing an appreciable and frequently a large proportion of the whole business. This too we call *limited competition*, by contrast with the *unlimited competition* of a great number of producers, each turning out an infinitesimal fraction of the whole product. In the latter condition the producer gives no attention to the effect of his output on prices, because prices are entirely beyond his control. Under limited competition, on the other hand, the producer, like the monopolist, considers output, knowing that his individual decisions affect price. Like the monopolist, he tries to make output and prices as favorable to profits as he can. On the face of it the action of a handful of competitors in respect to price, supply, and production would seem to resemble that of a monopolist more closely than that of a large number of competitors in a truly competitive market. Such is the fact. The essential point is that here, as under monopoly, the producer considers the effect of his action on price, while under unlimited competition he does not. It is this difference, rather than the size of the business unit, that distinguishes limited from unlimited competition. Size is important only in relation to the total output of the industry.

With this in mind, the importance of corporations in price-making becomes apparent on a moment's reflection. The corporation has been the indispensable condition of the assembling of capital into large masses, and therefore of the growth of enormous industrial units, like the Steel Corporation, capable of supplying a significant fraction of the output of a great industry like steel. It thus has been the active agent in such industries in substituting for the traditional determination of prices by a large number of competing small units (as best illustrated in agriculture) a process of price determination by the competition of a limited number of large units, like the automobile- or steel-makers. We are interested here in an analysis of this process.

In the field of limited competition we have a small number of competitors, each producing so significant a proportion of the output that his action in increasing or decreasing production may appreciably affect price in the market. How do they act? Each, if he were alone in the market, would simply have the problem of setting his output and price at the point that he thought would bring him the maximum net revenue. But now he controls only a part of the output. In adjusting output he must think not only of his own production but of what his competitors are likely to do. He cannot set the price as he will, because they may cut under him and take away the business from him. His problem, therefore, is more complicated than if he were a monopolist, though his aim is just the same, namely, to make as much profit as he can.

The conditions in the low-price automobile field illustrate the situation well. Ford, Chevrolet, and Plymouth among them occupy most of that field. Any one of them, in fact, satisfies excellently the widespread want for a low-price high-grade car. Any one of the three concerns could without difficulty turn out a larger number of cars than it ordinarily produces. By a sufficient cut in prices it could increase sales to absorb an increased production in this field. How now are prices determined? Essentially by the calculations and decisions of three producers instead of one, each of the three having an enormous investment and a huge business to protect, each eager to develop the entire business as far as he can, each eager to get as much of the business to be had as he can.

Ford has always proclaimed a noncompetitive policy, a policy of making as good a car as he knows how and selling it as cheaply as he can, no matter what others do (though he appears to have been remarkably unsuccessful in the latter half of his aim, if the aggregate profits out of which the present huge business has been built up are evidence). Is that the actual situation? Production schedules have to be made in advance. It is necessary to forecast as well as possible the market demand for cars of all makes in this group. The question of how many Fords to make will depend on what part of this assumed

demand Ford believes he can turn to his cars. Suppose he is thinking of reducing prices. Under usual conditions of demand this will be followed by an increase in sales, but he may be reasonably certain that his competitors will not allow him to reap the entire benefit of this increase. They will follow suit in the price reduction and share in the increase in sales. On the other hand, suppose that he holds his price while his competitors reduce theirs. He then must content himself with a smaller proportion of the sales, and may be compelled to reduce his output. In fixing his price he must consider, therefore, the effect of that price both on the probable volume of sales in the whole industry and on the proportion of those sales that will come to him instead of going to his competitors. The latter question is one that will be determined not by absolute prices but by the relative prices of the three cars. He must therefore take into account the probable action of his competitors if he is to make a decision that even approximates what is best for his own business. The greater complexity of his problem as compared with that of the monopolist is apparent.

Suppose that he anticipates an increased demand for automobiles during the ensuing year. More cars can be sold at the same price, or the same number at some higher price. Producers may increase prices or make preparations for increased production, or both. Perhaps Ford believes, on the basis of market studies, that this will be a temporary increase and that an enlargement of production facilities to meet it would therefore mean overcapacity later. He holds, then, that the wisest move for the industry as a whole and for himself would be to meet the temporary increase of demand by an increase of prices. If he thinks that his competitors will look at it in the same way, he may announce an increase of prices for the succeeding year. His competitors may do the same, each thinking it wiser to be content with the share of business that he already has than to run the risk of losses involved in overequipment and unproductive investment of capital. The resulting price under such circumstances is much like a monopoly price, although it is arrived at by the agreeing (though independent) decisions of three separate and competing producers. It is the price that each of the three believes will maximize his own profits. That is to say, each of them believes that he will be better off by charging a higher price than he would be by adhering to a lower one in the hope of getting a larger proportion of the anticipated business, at the cost of overequipping himself.

However, Ford's competitors may not agree with him in expecting an increased demand. They may decide simply to maintain their price instead of increasing it. If Ford guessed right, then he will be able to dispose of his output at the higher price he set. His competitors will dispose of theirs, too,

but at a lower price than they might have got, and consequently with somewhat lower profits than were possible. If, on the other hand, they proved right and Ford wrong, they would sell their production at the price they had set; but he would find some part of his output unsold as the season neared its end. Unless he then lowered his price, he would suffer some loss because of unsold cars. Various results are possible, according as the judgments of the producers do or do not agree; but as long as nobody is willing to start a price war, producers may maintain a production-price equilibrium that enables them all to make reasonable or even generous profits. Each of the three may, and does, try to attract business by giving more for the money, making better cars, offering better service, emphasizing the uniqueness of his product, trying in every way to show buyers that their dollars will bring the largest amount of happy motoring if expended for his car rather than for another. But he will not cut his rivals' throats, for fear of getting his own throat cut.

The situation of the producer under limited competition is thus less simple than under monopoly; for always the possible action of competitors is to be considered. Every large producer is bound to consider the effects of his production and price policy on the market as a whole, because he cannot help seeing that it affects the market as a whole. Just like an intelligent monopolist, he takes care, in the ordinary phrase, not to "spoil the market." When demand falls off, he is likely to cut output to avoid a too disastrous fall of price, trusting that his equally well-informed competitors will take equally intelligent action. In a large proportion of instances they will act in the same way. The resulting output and prices, consequently, are first cousins to monopoly output and prices. Over that large area of competitive (often sharply competitive) business—like automobile manufacture—dominated by a small number of large producers, then, we must think of prices as determined in much the same way as under monopoly. Instead of watching only the limits imposed on him by producers of competing commodities, however, the price-maker must take into account also those set by competing producers of the good he is making. We have to consider the action of a single firm and also that of the industry as a whole.

Given, then, a certain demand and a certain distribution of productive power within an industry of limited competition, a certain equilibrium of production comes to be accepted among the small number of producers who supply the market. Not only do they make no effort to upset that equilibrium, under ordinary circumstances, but they definitely try to stabilize it, so that existing investment may not be jeopardized. We do not assert that they make no effort to strengthen their own position. Every businessman does that, even if he already has a complete monopoly. But under limited com-

petition each producer, in trying to strengthen his position, unavoidably sees it as a significant part of the situation of the industry as a whole, and that situation involves a certain equilibrium of production with his competitors. A price-and-production equilibrium once accepted, the producers more or less consciously plan their production with reference to it. So long as these conditions remain substantially the same we have a price in essence much like a monopoly price.

Disequilibrium under Limited Competition

There is always, however, another possibility inherent in a situation of this kind. One of the competitors may be considering a radical change which will basically upset the existing balance, like bringing the eight-cylinder engine into the low-price automobile field. The change may involve the scrapping of equipment that still has in it years of useful service; it may require months or even years of preparation and the investment of millions of capital, which must be irrevocably sunk in new machinery. He will have to consider carefully all that is involved. What new expenditures will it necessitate? What new business will it probably produce? What will be its effects on his competitive position? How will it affect prices? What will the changes do to the cost of production? Perhaps they will reduce it sharply, but only if it proves possible to extend the existing scale of operations. If so, how much of the increased business necessary can be obtained at the expense of competitors by offering a more attractive product, and how much must be obtained by lowering prices and thus tapping lower layers of demand? Further, what will these changes, both in product and in price, lead competitors to do? Will his rivals take the change as a challenge and plunge into a price war in which everybody is certain to lose heavily? If they do, who can stand it longest? The questions to be considered are endless. They must be answered by the trained judgment that leads the successful businessman generally, though not always, to do the right thing under circumstances to which he is accustomed.

Suppose the individual or the board of directors responsible decides to make the change contemplated. What happens? Forces are set in operation that thoroughly upset the existing balance in the industry. Developments may follow any one of many courses. Both the production situation and the price position may be subject to rapid change. To follow out a single one of the varied possibilities, suppose it has been decided to bring out a sharply improved product at the old price. The improvement is expected to divert a considerable amount of business from competitors and also to call into existence an added body of buyers who would not pay the old price for the old

product but will pay it for the new one. Thus, it is expected, the concern will get the volume of business necessary to justify the heavy expenditures involved. The announcement of the new product, we will further assume, meets with an unexpectedly favorable public response, and the sales of competitors are threatened with a sharp fall.

One of them decides to meet the emergency by a cut in price. He is promptly followed by another, who slashes prices even further. The whole market soon becomes disorganized, and even the maker of the improvement finds it necessary to join the ranks of the price-cutters in order to hold his share of the business, to say nothing of bettering his relative position. Meanwhile the lowering of prices has tempted into the market a considerable body of new buyers, and a large volume of business is done, but at prices that mean losses for everybody concerned. Yet no one dares restore prices to a profitable figure, because he is afraid that the others will not follow. He then would lose business and, being obliged to curtail operations, perhaps would find his unit costs so increased that even re-established prices would not make operation profitable.

The demoralization in the market, we may assume, continues until the financially weakest of the competitors has reached the end of his resources. As an alternative to actual bankruptcy, his company is taken over by a strong banking group already deeply involved because of heavy loans to the embarrassed concern. In the process of reorganization the bankers arrange for a lowering of capitalization and the investment of additional capital. They combine the company with another important firm in the same industry, thinking to make a more efficient producing unit by joining their facilities. They hope that their concern thus can maintain itself in the face of the inescapable competition, including that of the company originating the disturbance.

Meanwhile matters have been quieting down throughout the industry generally. Other companies gradually have adjusted themselves to the situation created by the improvement in the product. Perhaps they have imitated it. Perhaps they have found new ways of cutting costs that will enable them to keep in the running. As the panic-stricken struggle for business gradually subsides, prices are advanced slowly and cautiously (more or less by a process of general consent) to a level where they are found reasonably satisfactory by pretty much all the small number of concerns involved. At that point they once more come to rest, because nobody cares to take the risk of disturbing them seriously.

In the process that has gone on since the initial disturbance took place, extensive changes may have occurred in the industry. The total amount of

business done may have increased. The original disturber may have gained not only an increased absolute amount of business but an increased proportion of the total. The relative financial strength of the various competitors may have been substantially altered. Costs of production may have been changed, and changed unequally for different competitors. Prices may have failed to return altogether to the old level. The whole structure of the industry thus may have been materially altered, and the distribution of power within it may be substantially different from that which previously existed.

Within this new structure and among the forces operating in it, however, a new equilibrium, temporary like its predecessor, is once more established, and we again find every firm operating within that equilibrium, and adjusting production to the existing scale of prices in a manner much like that of a monopoly producer. This new equilibrium will be maintained, perhaps for a long, perhaps for a short, time, but certainly until some force, either within or without the industry, operates powerfully enough to upset it. Then will come another period of readjustment, perhaps in some respects like that described above, perhaps completely different from it, to be succeeded by another period of relative equilibrium and more or less established price relations. Within the field of limited competition our picture is thus one of periods of equilibrium, in which producers are adjusting production practically on monopoly principles, with intervening periods of disturbance, during which production and price relations are subject to sudden and violent changes.

It is worth noting that as the number of competitors becomes small and as their financial strength grows, the power of the system to maintain itself in relative equilibrium in the face of very considerable shocks, both internal and external, seems to increase. The automobile industry between the first and second World Wars was in a state of rapid technical improvement. Every important change made by any producer constituted a disruptive force that required extensive adjustment on the part of others if disastrous competition was to be avoided. Yet since the three great producers came to dominate the cheap-car field, the fierceness of competition in that field has not expressed itself in the form of reckless price-cutting or devil-may-care increases of production. And when the depression came, with its shattering impact on the demand for cars, what we witnessed was not a death struggle among these concerns, each trying to get for itself the lion's share of what few orders were to be had. Instead, there was a reduction of production schedules in all the plants, reminding one of the way in which a monopolist cuts his output in the face of a lessened demand, so as to keep prices at the point of maximum net revenue under the changed conditions. There is, however, one difference,

at least of degree, between monopoly and the existence of a few large competitors. We assume with monopoly that entrance into the industry on the part of new firms is exceedingly difficult. If this holds true also in situations of limited competition, the price and production conditions are much like those described above. But with prices at the point of maximum profit and with entry into the industry at all possible, new firms may be enticed into the business. Their entry into a field in which, from our analysis, we assume that the volume of product is already less than the capacity of existing plants means that too much capital is being diverted to this industry, "too much" meaning more than is necessary to produce the volume of product which will be produced.

Automobile-makers are not different from producers in other lines of business where a small number dominate the market. Relative price stabilization has been effected through the adjustment of production to changing demand by the congruent decisions of competing producers, each seeking the maximum gain. Since 1890 such stabilization has become increasingly common in industries of limited competition. In other words, the competition of small numbers has come increasingly to resemble monopoly in this respect. This development has sometimes been treated as a genuine growth of monopoly, but plainly it is not, for it has occurred in many industries that are actually and sharply competitive. What the student and the statesman need to realize is that we do not have, as was once assumed, but two kinds of industry, one competitive and one monopolistic, with the former usual, the latter exceptional. Instead, we have monopoly and two kinds of competition. Limited competition, in price relations and their consequences, differs quite as much from unlimited competition as does monopoly, and, indeed, the kinds of limited competition differ among themselves. Intelligent thinking and action imperatively demand a clear understanding of this fact.

Limited Competition and Small Producers

Limited competition frequently exists with a few dominant large concerns and a fringe of smaller ones. The result may be that a dominant concern announces its price policy, and the smaller concerns follow the leader. There is no formal agreement, and no collusion is implied. It is not necessary. The small firms are happy to accept the price leadership of the strongest. A variation of this price-setting is the basing-point system, earlier known as "Pittsburgh plus." Under it steel companies in all markets charged the price of steel made in Pittsburgh, the basing point, plus the freight from Pittsburgh to the price-making city. Steel might be made more cheaply in Chicago than

in Pittsburgh; nonetheless, the Chicago steel-user had to pay the Pittsburgh price plus freight from that city to Chicago, even though he was within ten miles of the plant which produced his steel. This was not a monopoly price in the strict meaning of the term, but a price controlled by the largest corporation in the industry and gladly accepted by smaller producers to whom it offered larger profits than would a competitive price. Modified by the establishment of more than one basing point, the system has been employed in many industries.

Not infrequently a few large companies, by their congruous decisions, make prices in the way already pictured, while smaller concerns, instead of following, pursue such independent courses as they conceive to be to their own advantage. The large companies, on which reliance must be placed for the main part of the supply, act with a sense of responsibility in adjusting supply and price. That is to say, they try to fix prices with reference not only to immediate sales but to all the considerations of which a monopolist takes account. The small concern, on the other hand, individually turning out an insignificant part of the entire output, naturally enough gives little attention to those more distant considerations. If it sees a chance of a little additional business to be gained by judicious price-cutting, it is not likely to consider anything beyond the added business to be seized. It does not have to take into account any possibility that prices will be promptly cut throughout the field to meet its cut, as one of the big producers must. The small concern turns out so small a product, and at most can cut so little into the business of the large companies, that the latter are likely under ordinary circumstances to go their own way without paying too much attention to what it is doing. On the other hand, at a time of unusually brisk demand, when for some good reason the dominant producers may have determined, nevertheless, to make no price advance, the small company may decide to take full advantage of the eagerness of the market and exact higher prices.

The small producer thus enjoys a freedom of action that the greater companies do not have, and he possibly may make a higher percentage of profits than they. Furthermore, he may in fact be on the way to becoming a significant element in the price-making problem. It does not do to get a notion of American industries as static. Plenty of them today have large producing units that were in their infancy only a few years ago. So long as the producer remains small, however, his individual action has little to do with the actual making of prices, which depend on the decisions of the great producers. He knows it, and he is able to take advantage of his irresponsibility. Not infrequently he makes himself enough of a nuisance so that one of the big concerns finds it worth while to buy him out and attach his fortunes to its own.

In the oil industry we have an excellent example of limited competition in a field where price control is unusually difficult. There are two sets of prices to be explained: first, prices of crude oil as it comes out of the ground; secondly, prices of refined products, of which gasoline is at present the most important single one. The popular idea of the Standard Oil Company as a great monopoly comes down from the days when the first Rockefeller and his associates were doing their utmost to make that idea a reality. At present it is as far as possible from the truth. Not only are there a half-dozen big Standard Oil companies and a flock of smaller ones, to a certain extent separate in fact as well as in name, but there are the great rival groups of completely different ownership and sharply competitive policy, like the Royal Dutch Shell.

In the production of crude oil the large companies are the chief producing units, but there are also many small producers, entirely outside their control, who among them are responsible for a considerable proportion of the entire output. Further, new drilling companies are constantly springing up in good times to share in the gains to be made out of new oil discoveries. Most of them have no refining and marketing facilities, and therefore most of the product of the small independents is sold to the big companies, which accordingly get their supply of crude oil partly from their own operations in the oil fields and partly by purchase from the independents. In this aspect of the business we are dealing, therefore, not with a few sellers, but with a few buyers who may be said in some sense to dominate the market. The greatest producers of crude oil, that is to say, are also the leading buyers in the open market. A common procedure is for Standard buyers to announce the price at which they will buy, and for the others to follow their lead.

Let us examine the resulting price situation. Competition among sellers of crude oil is extremely fierce, owing to the great pressure to put down wells as fast as possible when a new pool is tapped. Since the great buying companies are themselves also the chief producers of crude oil, they might well prefer to maintain reasonably remunerative prices for the oil they buy. By so doing they would keep up the prices of refined products, which are based largely on crude prices, and would thereby increase their profits on that major part of their refined output which is made from their own crude. But they are quite unable to control crude prices, because they cannot control crude production; and even price declines are ineffective to check production as rich new fields are opened up. All sorts of devices, therefore, have been used to keep the flow of crude oil within bounds that will yield a reasonable return to capital already sunk in drilling. Even the use of state and Federal authority, however, has proved inadequate to dam the flow within such limits. Against the unrestrainable activities of many small concerns, rushing in to make quick profits by

tapping new oil resources (and often making staggering losses instead of profits), the large companies are powerless. They can only pay such prices as are dictated by the current crude output viewed in its relation to the market for the refined product, and meanwhile support all measures promising a more reasonable and orderly drilling program that will not bankrupt large numbers of crude producers and threaten untimely exhaustion of irreplaceable oil resources.

In refining, the position is distinctly more stable; for refining capacity is chiefly in the hands of the large producers. What happens here is that prices, under ordinary circumstances, are made by the large companies, and the others follow their lead. Even so, there is no necessary and continuous concert of action among the great producers. Every car-owner knows that gasoline price wars, to take an example, are by no means infrequent. He knows, too, how great and how widely distributed are the supplies of bootleg gasoline. He has often had such sorry experience that he learns to rely on the well-known concerns for what he considers a dependable product. The same thing is true of lubricating oil. Prices of refined oil products thus have to be adjusted by the producers to the uncontrollable conditions in their market and to uncontrollable conditions that determine the output of raw material that they must somehow manage to absorb.

In consequence of this situation there is an inevitable instability in both the output and the price of finished products of various kinds. Notwithstanding these difficulties, a small number of large concerns, each acting primarily in its own behalf and without any common agency, do come to congruent decisions. During a considerable part of the time there is a reasonable agreement on prices. There are more or less harmonious, even though not concerted, efforts to keep the flow of oil running at such a rate as will make possible the maintenance of what these companies regard as "reasonable" prices. On the whole, a fair measure of success has attended such policies.

To think of prices as determined by monopoly is wide of the mark. But it is no less so to think of them as determined by the competition of a large number of small producers, which is what is meant by competitive price-making. What we have had, in fact, is an example of the possibilities of limited competition, maintained in the face of great natural difficulties, and on occasion breaking down in the face of those difficulties, yet managing somehow to restore the conditions essential to its own continuance. It may possibly turn out that those difficulties will ultimately prove too great for control by the leading producers through the use of price machinery. If so, we shall undoubtedly come to some scheme of public control that will make possible a more satisfactory adjustment of prices and output than has yet been achieved.

Summary

Limited competition is of two kinds, the effort to differentiate product or service, sometimes called nonprice competition, and the competition of a few firms within an industry, each so large that the action of one affects the prices of all. A familiar evidence of the first is the effort of the advertiser to build up in the minds of consumers the idea that the advertised commodity has a monopoly of some highly desirable quality. If the tobacco has been "toasted," the cigarette is therefore unique. Or if this ink alone is "washable," it establishes a small island of monopoly in a sea of competition.

Price determination under limited competition of the second sort resembles that under monopoly, because each large producer knows that his output may significantly affect the price. Therefore he chooses the price that he believes, on the whole, most profitable to him, and adjusts his production to the amount that he can sell at that price. Such price determination differs from monopoly price-fixing, because in addition to all the considerations that affect the monopolist the producer has to take into account the possible and probable action of his competitors, and therefore he has not the same freedom in price-fixing as the monopolist. At times of price equilibrium, however, the price-making process is like that which prevails under monopoly, and the ordinary expansion and contraction of production appear not dissimilar. The equilibrium, of course, may be upset at any time by the action of any producer, and the upset may lead to a period of disorder, to be succeeded in due time by a new balance of forces, possibly quite different from that previously prevailing. On the whole, the movement in such industries appears to be toward increasing price stability rather than toward increasing frequency of price wars. Consequently it is toward adjustment to changed business conditions by expansion or contraction of production by the industry as a whole, rather than by price changes. In these particulars industries of limited competition appear to be growing more rather than less like monopoly industries.[1]

Prices of Producers' Goods

It will be noted that our discussion up to this point has been concerned chiefly with the prices of consumers' goods. We have assumed that on one side of the price-making process there is a demand determined by the con-

[1]In situations so infinitely complicated as those suggested in this chapter the authors believe that for the student beginning the study of economics there is nothing to be gained from an attempt at graphic representation. That belongs to a more advanced study of the subject.

sumers' willingness and ability to pay, and on the other a supply determined by the motives and activities of businessmen carrying on business for profit. We have distinguished the two great groups of administered and market prices on the ground of the different conditions existing on the supply side.

If we turn from consumers' to producers' goods, the conditions of supply remain unchanged. Producers' goods are produced by businessmen, as are consumers' goods. Demand, however, is substantially different. No longer does it rest on the wants of consumers, but on the business needs of businessmen. The demand for the raw materials of consumers' goods depends, indeed, on the consumers' demand for the finished product, but is more quickly sensitive, because the businessman is forever on the alert to anticipate changes in the demand for his product and therefore is likely to reduce or augment his purchase of materials in response to indications of changes in the demand for his goods. The woolen manufacturer's demand for wool today is based on his anticipation of the demand for woolens by consumers six months hence. His demand for buildings, machinery, and all the instruments of production is based on anticipations of demand for his product possibly far more remote in time. He may be building a new mill today that he expects to be serving his business for fifty years. The anticipated demand for woolens fifty years hence may in part be responsible for his demand for brick and mortar today.

Without going at all into detail here, since we revert to this subject in later chapters, we may point out that in the market for producers' goods, where the businessman appears not only as seller but also as buyer, it is normal to expect a greater sensitiveness of demand to business considerations than is true of the market for consumers' goods. This sensitiveness of demand will result either in (1) marked fluctuations of production, in industries of administered prices, or (2) marked fluctuations of prices, in industries of market prices. These fluctuations are likely to be greatest of all in those industries that make machines and other productive instruments. The tremendous variations in output that mark the steel industry in prosperity and depression are due to the fact that its product goes so largely into the equipment of industry, and into long-lived consumers' goods, like automobiles, whose purchase may be deferred in bad times. Broadly speaking, producers' goods industries are less stable than consumers' goods industries, and the prices or the output of those industries may be expected to reflect that instability. Insofar as the supply is a controlled supply, the impact of the changing demand will tend to be expressed in an increase or a reduction in output rather than in a change in price. To this point we shall have occasion to return when we examine the causes of business fluctuations.

Flexible and Inflexible Prices

Our consideration of the machinery of price-making and the results of its operation has disclosed that our system of prices falls into two parts. On one side are industries of monopoly or limited competition, on the whole characterized by relatively inflexible administered prices; on the other, industries of unlimited competition, characterized by relatively flexible market prices. In the first group of industries prices for the most part are fixed by a small group of dominant producers, who take account of the effect of their production policy on prices and consequently on profits. Over this large part of the industrial field prices are fixed by the adaptation of production to what the single producer or small group of producers believes to be the most profitable level, taking all the possibilities and limitations into account. Such prices are relatively inflexible, or "sticky," and they are kept so in the face of fluctuations in demand only by the control over total production exercised by the single producer or the small number of large producers.

Many of our mining and manufacturing industries, to say nothing of transportation, have come under the control of a few producers. In these industries we therefore find inflexible administered prices. The prices which are attached to branded goods as a result of their makers' success in establishing the idea of monopoly qualities also tend to change slowly. In retail trade, likewise, such prices are rather surprisingly common. Except for the great shops and the department stores of our cities, such trade is carried on largely by a small number of competitors serving a geographically limited market. The price problem of these traders, while by no means the same as in the other industries just mentioned, is yet similar in character. Two or three competing groceries or dry-goods stores serving a country town fix their prices essentially in the manner above described, though, of course, the prices in practice come to be determined on the basis of an habitual markup above cost. Limited competition thus characterizes not only large sections of mining and manufacturing industry but also a considerable part of retail trade. Owing to the ease with which new competing units may be set up in retail trade, however, administered prices there are likely to afford only a modest margin of profit, while the large investment and heavy risks involved in setting up large-scale manufacturing and mining establishments may leave a wider price range, and consequently a wider profit range, within which the producers have a certain liberty of experiment. The profits in such undertakings may be much the same as profits in a monopoly business. It is safe to say that inflexible prices are more frequently to be found in the realm of finished and semifinished goods. We have implied here that the explanation

for this is to be sought in the control over supply possessed by the producers. It is also possible that in the industries characterized by inflexible prices costs are more largely matters of long-time contract, changing slowly. When this is true the inflexible prices reflect other inflexible prices entering into production costs.

It should be emphasized further that there are certain important inflexible prices in our system that are determined by others than producers of this type. First, there is an important group of prices that are fixed by public authority. Such are railroad and to a considerable extent public-utility rates of all kinds, mostly set by commission action and unchanged over long periods of time. Second is the body of professional fees and charges, like those of the physician. Third is the body of wage rates determined by agreements with trade-unions and running for considerable periods of time, sometimes as much as two or three years. Fourth is the large number of purely customary prices that a little scrutiny discloses, many of them based on a convenient coin and requiring almost a price revolution to change. Think of the number of articles that sell through good and bad times alike for a nickel or a dime, though here a price change is often unobtrusively accomplished by changing the quality or quantity of the good. A chocolate bar may be obtained for a nickel through periods of high prices and of low prices, but it is not always the same chocolate bar. Fifth, and vastly important, are the long-time interest rates paid by individual borrowers on their loans and by corporations in the form of interest on their bonds, and constituting a price paid by them for the use of capital. Sixth are the rents paid, especially for real estate, on leases running sometimes for many years, constituting the price paid for the use of land or buildings or productive instruments of various kinds. When these and other like prices are added to the administered prices of the preceding paragraphs, we have a formidable list of prices that do not move readily in response to changing industrial conditions. Such prices constitute elements of friction in the adjustment that prices are supposed to bring about among the working parts of our producing machinery.

The second half of our economy is characterized by relatively flexible market prices. Under unlimited competition each producer tries to maximize his output, infinitesimal in comparison with the whole. There is no immediate cutting down of production when demand and price fall, and no immediate increase of production when demand and price rise. As a result, the brunt of changes in demand has to be taken by prices, and we have in consequence a tendency to violent price changes rather than violent changes in output and consequently in supply. Further, in discussing industries of this kind, we indicated that even the somewhat tardy adjustment of output to price con-

templated in our theory of the elimination of the submarginal producer is sometimes seriously delayed in its working, and that these industries therefore may be carried on for fairly long periods at prices unprofitable to a large proportion of the producers.

This brief consideration of flexible and inflexible prices should indicate without further discussion how imperfectly our existing price system performs its third and fourth basic functions, namely, the direction of production and the distribution of the product among those who have turned it out. We shall have occasion to deal with both these functions hereafter; at this point we do no more than compare the ideal with the actual performance in the direction of production. Ideally, prices serve immediately to keep demand and supply in equilibrium, by rising or falling as may be required in order to cut down or to increase the amount that will be taken and at the same time to increase or to cut down the amount that will be offered. If in this process prices in one industry over any considerable time stand at a level which makes that industry especially profitable, then businessmen in the pursuit of profits will bring in more capital and enlarge the scale of operations. The resulting increase in supply means that prices must be reduced until profits are no greater than are to be made elsewhere. Thus the enterprise, the labor, and the capital of the community are, through the working of prices, distributed among the various industries in certain "right" proportions, and a production-price equilibrium is established that keeps the system at work producing the goods that the members of the community most eagerly desire as manifested by their willingness to pay for them.

Actually we find our price scheme divided into two disparate parts. In one part prices do work to a certain extent in the fashion required by our theory. In the other they do not function at all in this manner. They are made by producers in accordance with what they conceive to be their own interests; and production relations, instead of being more or less automatically guided by prices, are determined by these producers in such a way as to make possible the maintenance of the price relations they think desirable. Nor does this situation constitute an exception to the general rule, as the economists were accustomed to assume when they thought it applied only to a small number of monopoly industries. Instead, to a greater or less extent it prevails generally except in the industries of unlimited competition, whose number appears to be declining as the large corporation occupies more and more of the field of production. As between these two parts of our economy there is no equilibrating force. With business recession, prices go down in one part; production goes down in the other. Consequently the exchange relations between goods produced in one division and those produced in the other are upset. The

farmers and other businessmen in industries of unlimited competition are unable with their product to buy the accustomed quantities of goods produced by the industries with administered prices. The cutting of production in these latter industries throws out of work a part of the labor employed there, thus depriving it of its accustomed purchasing power, which is necessary in order to help maintain production in these industries and to keep up prices in industries of unlimited competition. The resulting disequilibrium and stagnation of production were only too clearly exhibited in the depression of the thirties. No one conversant with the facts would for a moment deny the seriousness of the problem presented to a price-controlled economy by the presence in its structure of a great body of inflexible prices. It is one of the difficulties which frequently confront any capitalistic economy.

Wartime offers special conditions and calls for price controls which have no parallel in normal economic life. The purposes of price administration are various. It may be intended to discourage the purchase of scarce goods or to encourage the expansion of output of necessary goods or both. Combined with rationing, it may aim at a wider distribution of available commodities than the uncontrolled working of the price system would bring about. It almost certainly represents an attempt to prevent a general and rapid increase in the cost of living and in the cost of the war. The most difficult economic problem presented to the administrators of price control during a war is that of holding prices down and at the same time bringing about the increased production that is necessary. This is a completely different problem from that of flexible and inflexible prices operating in the same economy to dislocate price relationships, and is not one which calls for expansion at this point. Of itself the imposition of price ceilings probably interferes with the functioning of prices less than do some of the peacetime controls here described.

CHAPTER SEVENTEEN

Speculation and Price-Making

IN THE study of value and price the economist is concerned especially with the underlying forces that determine prices. The actual processes of price-making and the technique of marketing have scarcely been given the attention they deserve, though the practical businessman is well aware of their importance. One aspect of price determination, however, the growth of speculation in modern markets, has been so striking that it could scarcely escape examination. Yet even here we are discovering that most studies of the subject have been inadequate and earlier judgments are in process of revision.

The Meaning of Speculation

Speculation is the buying and selling of commodities or securities with the purpose of making a profit from a change in their price. A man buys a corner lot for $5000, hoping that it will rise to $7000. Two years later he disposes of it for $7000, making $2000 on the transaction. Another who owns no wheat sells 10,000 bushels of wheat at $1 a bushel, for delivery next May, believing that the price will go down and he will be able shortly to buy the wheat to fulfill his contract for perhaps 95 cents, thus making $500 on the deal. Instead, wheat goes up, and he finally has to buy at $1.04 in order to make delivery, losing $400 on the sale. A third speculator buys a thousand shares of American Commercial Alcohol at $70 a share, thinking that its price will increase. It goes up to 73, but he holds on, hoping that it will move still higher. The bottom drops out of the market, the stock falls to 50, and he closes out his deal in disgust, with a loss of $20,000. These three everyday examples illustrate the essence of speculation as we define it. Every complete speculative operation involves both a purchase and a sale by the speculator, and the first transaction is undertaken with a view to making a profit by consummating the second when the price shall have changed. Speculation usually involves a time element. In an organized speculative market a man may make either his purchase or his sale first. If he thinks the price is going up, he will of course buy first; if down, then he will sell first, as the wheat speculator did.

The two features of our definition set off what we shall discuss from other and different activities that are sometimes embraced under the same term, to the great confusion of thought. The word "speculation" is often used to cover all risk-taking. Thus it is said that every farmer is a speculator, because he is obliged to take the risks of the weather. Practically all business, it is declared, is speculative, because every investment of funds, even in the peanut vendor's tiny stock, involves some element of risk. It is not in this blanket sense that we use the word "speculation." We are dealing solely with the activity of the man who buys or sells, as may be, with a view to selling or buying later when he hopes that the price will have gone up or down. We thus exclude from speculation the assumption by businessmen of the whole body of unavoidable risks connected with their businesses. We exclude from the category of the speculator the merchant, who, indeed, buys goods with a view to selling them at a higher price, but not at a changed price. The advance in price (as of the retail over the wholesale price) covers his cost of doing a useful service with what he regards as a reasonable profit, and is not the result of any change of prices from one time to another. We exclude likewise the investor, who buys a hundred shares of General Electric stock in order to hold it and receive dividends on it. It may happen in the course of time that the price of the stock goes up, and he sells it in order to make what he considers an even more promising investment; but the making of the profit realized on the sale was not the motive of his original purchase, and his subsequent gain from the rise in the price of the stock was purely incidental to another purpose. We exclude the man who ventures into a hazardous field like gold-mining, and who is therefore often called a speculator. The gold-miner usually takes a long chance, but he sinks his labor and capital irrevocably in his enterprise in the hope of striking it rich. Though his risk is great, he is not a speculator as we use that word.

Furthermore, we limit our discussion to speculation as it is conducted on the organized produce and stock exchanges of the country. We do not deal with real-estate speculation, which has been a conspicuous feature of American business activity from the time of the first colonial grants, or with numerous other forms of genuine speculation. Our purpose is simply to examine the economic results of speculation as we find it on the organized exchanges. Needless to say, our study will concern price relations primarily.

Commodity Exchanges

Commodity exchanges are associations, commonly unincorporated, organized for the control of trade by and among their members. Examples are

the Chicago Board of Trade, the New York Cotton Exchange, and the Coffee and Sugar Exchange. Such exchanges undertake to maintain an open and competitive market, on which trading is limited to their members. Outsiders wishing to buy or sell must place their orders through members, who thus make commissions as brokers for others. An exchange member has therefore two possible sources of income, his commissions on the execution of such orders and his profits from trading on his own account. Membership on a large and active exchange may be valuable property. A seat on the Chicago Board of Trade in the fall of 1929 sold for $62,000. Six months later the price had fallen to $15,000. In 1945 a seat in the Coffee and Sugar Exchange sold for $4200. The value of membership varies with the activity of trading.

For many years the exchanges were governed almost exclusively by their own rules; but growing dissatisfaction with their activities, and fear of the effect of these activities on many aspects of business outside the exchanges, brought an extension of Federal legislation in 1936. Under the Commodity Exchange Act of that year the Commodity Exchange Administration was created within the Department of Agriculture to determine the rules and regulate the trade on the organized commodity markets. In the years immediately following the establishment of this agency wholesome, and sometimes drastic, reforms were instituted; but the coming of wartime price controls so reduced the importance of commodity speculation that the administration of the act was merged with a host of other duties, under the Marketing Services of the Department of Agriculture.

Trading is done chiefly in commodities that are nonperishable and therefore capable of storage, and that can be graded and sold by sample. While every purchase on such exchanges gives the right to demand actual delivery, in the small but important proportion of sales where delivery is called for it is commonly effected not by the turning over of the actual produce but by the proffer of warehouse receipts covering stocks of the commodity in storage. The whole system of trading thus depends on an adequate technique of grading and sampling. The more important commodities dealt in on the exchanges are the cereal grains, cotton, sugar, coffee, rubber, raw silk, hides, and metals.

Transactions are of two kinds. First, there are cash or "spot" sales, that is, sales for immediate delivery. Secondly, there are so-called "futures," that is, sales for future delivery. The first present no mystery. A man owns a warehouse receipt calling for the delivery of 10,000 bushels of No. 1 Red Northern winter wheat. He sells for immediate delivery 10,000 bushels of that grade at $1.14. He receives $11,400, turns over the warehouse receipt, and the transaction is complete. The trade is as simple as selling ten pounds of sugar over the grocery counter. The relation of cash or spot prices to the price

of the futures in the illustrations which follow offers little difficulty. If it costs half a cent monthly, including all expenses such as insurance and interest on capital, to carry wheat in storage, then evidently the price of wheat in the latter part of the crop year will normally be higher by about half a cent a month than in the earlier part, since wheat for the later delivery has to be sold at a price covering storage charges. If in November the spot price of May wheat is $1, then May futures will normally be selling for something like $1.03, with corresponding differences for other deliveries. Spot prices and future prices will in general move up and down together, and the whole body will constitute a related structure of prices—essentially one price—at which the year's wheat crop gradually moves from the hands of producers into those of consumers.

Future sales, which are a much more important form of speculation, call for more explanation but are no less simple when understood. A second man in November sells 10,000 bushels of No. 1 Red Northern winter wheat at $1.20, for delivery the following May. He receives $12,000, in return for which he has entered into a contract to deliver, at any date he chooses during the succeeding May, 10,000 bushels of wheat of the specified grade. If he lets the contract run, at some time during that month he must turn over the warehouse receipt that will give the buyer the specified grain. It is plain that when he entered into this contract in November he might or might not have been the owner of any wheat. He might have been a small local grain-buyer in northwestern Iowa who had in his warehouse 10,000 bushels of wheat that he wanted to store there until the following spring and then sell, normally at a slightly advanced price covering the expense of storage. He is a dealer in wheat, but not a speculator. He thinks $1.20 a satisfactory price, and, moreover, he does not want to lie awake nights wondering whether the price will go down during the winter. So he wires his broker on the Board of Trade to sell 10,000 bushels of May wheat as above indicated. During the delivery month he will then ship his wheat, against which a warehouse receipt will be issued by the grain elevator of the terminal market (perhaps Minneapolis or Chicago), and with this receipt he makes delivery on his contract, exactly as in the cash sale above described.[1] Of course, if his wheat is not up to grade he must pay the difference between the grade he sold and the grade he delivered.

It is much more probable, however, that the man who sold May wheat in November was not an actual wheat merchant, like the local grain-buyer of the previous paragraph, but a speculator who owned no wheat and never expected to own any. Such a speculator may believe that the November price

[1]We make no attempt at exact description of the elaborate technique of all these transactions. Our concern is to bring out the essential principle involved.

of the May delivery is higher than it is likely to be later. He sells 10,000 bushels for May delivery at $1.20, exactly as did the dealer of our previous example. The transaction is in every respect the same; and if he allows the contract to run, he must actually make delivery at some time not later than May 31. But whereas the dealer could and did make delivery with actual wheat which he owned when he made the contract, the speculator has no such possibility. Therefore, at some time between November and the end of May he must go into the market and buy wheat in order to fulfill his contract. In this example the dealer sells and delivers; the speculator sells *and buys* and delivers. The dealer may be said to trade in wheat; the speculator, in warehouse receipts. The speculator sold in November what he did not possess, because he thought that wheat prices were going down and he wanted to profit from the expected fall in price. Suppose that his judgment or guess proves correct and that in January the price of the May option has fallen to $1.15. This will give him a profit of five cents a bushel if he now buys the claims to May wheat which he will need in May. He decides to take this profit without waiting to see whether May wheat falls still more. Accordingly, in January he buys on the exchange 10,000 bushels for May delivery at $1.15, paying $11,500. He now holds a claim for May wheat with which he can satisfy his contract of the preceding November, and he is $500 ahead on the transaction.[2] Suppose, on the other hand, that wheat, instead of moving down as he expected, goes up. The May delivery, we will assume, has risen to $1.30. Our speculator gives up hope that it is going down and decides to take his loss. He proceeds exactly as before, but finds himself $1000 the poorer for his speculation. If these simple examples are understood, it will be clear that while every "legitimate" transaction on a commodity exchange involves ultimate responsibility for delivery, and while the buyer can demand (and get) delivery at the time specified, it is yet possible for speculators to sell for future delivery goods that they do not own. Such a transaction is known as a short sale. The seller is a short seller. As illustrated above, speculators who expect prices to fall sell short in order to profit by the decline.

On the other side of every future sale, of course, is a buyer. He may be either someone who is going to want actual wheat in May or a speculator who thinks that prices are going up. Corresponding to the grain-dealer on the selling side, for example, may be a miller who knows definitely that he is going to need wheat the following spring. He is willing to pay $1.20, and he

[2]In this example, as in other similar examples, we neglect the commissions he must pay his broker on his sale and purchase, the interest on money tied up in the transaction, and all other elements of expense, which would by so much lessen his profit. We follow only the essentials.

therefore buys for May delivery and takes delivery at that time. More to our immediate purpose is the speculator who believes that prices are going up, and who therefore buys not with any idea of receiving wheat at any time, despite his contract, but with the hope of selling out at a profit when the price has risen, be it in a day, a week, or a month. His procedure is just the same as that of the speculator on the other side of the market, except that he buys first and must sell afterward, while the short seller sells first and must buy afterward. The speculator who buys first is said to be on the "long" side of the market, or to be "long" on wheat. The difference between speculators on the short and on the long side is that the former expect the price to fall, while the latter expect it to rise. The former are called "bears"; the latter, "bulls."

The possible profits (and losses) of speculation are evidently limited by the size of the speculator's trades, which, in turn, is limited by the amount of capital at his disposal. This fact has given rise to what is called *trading on margin*, or simply *margin trading*. Let us return to the speculator just considered, who bought 10,000 bushels of May wheat at $1.20, with the idea of selling it later at a profit. He must tie up $12,000, which we assume is his own capital. Let him later sell out successfully at $1.30. He has a profit of $1000, less expenses. But he wants to make money faster with his $12,000. His broker therefore helps him to buy on margin. Suppose that 20 cents is the required margin on wheat. (We are once more in November, with the May option selling at $1.20.) For each bushel that he buys, the speculator is required to put up the margin of 20 cents, while the broker, who has his own banking facilities, borrows for him the remaining dollar necessary to make up the price of $1.20. By this means the speculator is enabled to operate on six times as large a scale as he could if he had to put up all the capital himself. He buys 60,000 instead of 10,000 bushels, paying for them $72,000, of which he supplies $12,000 and the broker's bank lends $60,000. The broker, who is responsible to the bank for the loan, retains, and pledges as security to the bank, his customer's contract for 60,000 bushels of May wheat, which at the time it is made is worth $72,000 and could be immediately resold for that amount.

Let the price rise to $1.30 as before. The speculator sells for $78,000. Of this sum, $60,000, with interest, repays the bank loan; the broker has made his two commissions, one on the purchase and one on the sale of 60,000 bushels; and the speculator has $18,000, less these expenses. In other words, he has made $6000 by trading on margin, against the $1000 that he made trading on his own capital.

Suppose, however, that the price moves down instead of up. As it does

so the value of the speculator's May contract declines. This means a decline in the value of the security held by the bank. The broker must require the speculator to put up additional margin, in order that the sum of the margin payment and the value of the contract shall continue to exceed the bank loan by $12,000 (20 cents a bushel). If at any time he fails to do so the broker has the right to sell him out, that is, to dispose of his contract for what it will bring—in other words, to sell 60,000 bushels of May wheat on the exchange. Suppose that the price falls to $1.10, and he fails to put up additional margin. The broker sells for $66,000; pays off the loan of $60,000, with interest; deducts his commissions; and remits the remaining balance of $6000, minus expenses, to the speculator, who has lost $6000, plus interest and commissions. His losses are thus multiplied sixfold, just as his gains were multiplied in like proportion as prices went up. Margin trading, it thus appears, is simply a device for enabling speculators to increase the scale of their operations by making use of borrowed capital, and thus to make added gains, at cost of the danger of making added losses.

In the past, public attention was sometimes attracted to commodity markets by the somewhat sensational market phenomenon known as a "corner," now virtually prohibited in all accredited markets. Suppose that speculators are so far out of touch with the realities of the production-price situation as to sell short heavily for delivery in May, at prices materially lower than will prevail then. Suppose, further, that a speculator more farsighted or luckier than the others has been accumulating these contracts for May delivery—a process which evidently would be likely to require enormous capital. As the end of May approaches and the luckless shorts are trying to buy to cover their short contracts, they may discover that there is only one place where they can buy. Their fellow speculator on the other side may have the market cornered and may be able to exact high prices from them, prices that they must pay rather than default on their contracts. Such corners have been tried, but they are notoriously hard to maintain successfully. The driving up of prices almost always calls out unexpected reserves of actual wheat or cotton, which the cornerer must buy up in order to prevent them from breaking the price, and thus the strain on his financial resources is likely to prove greater than he anticipated and eventually to bring him to grief. Corners in the commodity markets, aside from their picturesque and exciting incidents, are, in fact, chiefly interesting as illustrating the ultimate dependence of speculative prices on the conditions of demand for and supply of the actual commodity concerned, as those conditions are affected by consumption and reserve stocks. Under the present market regulations corners have probably become a matter of past history.

The Economic Function of Commodity Exchanges

The markets for the great agricultural staples give us particularly good examples of the economic function of organized speculation, and of the methods by which that function is performed. A commodity like wheat or cotton, widely produced and enjoying a world market, sells essentially at one price everywhere, if we allow for transportation charges, tariffs, and other special expenses that add to its cost in different places, and for the different prices that prevail for different grades of the same commodity. It is the trade on the exchanges that fixes this one price for cotton or wheat. Plainly this is a task of the utmost complexity, for the price depends on a multitude of considerations affecting the judgment of the sellers and buyers of cotton the world over. The exchange, with all its related paraphernalia for the gathering and distribution of information, provides an organization and a market place in which, in a sense, the buyers and sellers of the world may meet. The New York Cotton Exchange, in constant telegraphic communication with every important cotton market and every producing field in the world, has a constant flow of information that furnishes the best basis possible for intelligent judgment as to what is the "right" price for cotton. The buyers and sellers there gathered or there represented are constantly making their bargains on the basis of this information. The fact that delivery may always be demanded on a speculative sale, and that ultimate delivery, after the canceling out of all matching speculative transactions, must be made in warehouse receipts representing actual goods, ties speculative prices, in the last analysis, to prices as dependent on the production and consumption of the actual commodity. Insofar as the exchange performs its function properly, the price that is made will be more nearly the right price than any likely to be attained in the absence of such full information. The making of the right price is the true function of the cotton exchange, just as it is the function of any market.

What is this "right" price? The word as used in this sense has no moral significance. The right price is the price, or, better, the succession of prices, that makes it possible for the exchange of goods to proceed smoothly and steadily—that makes it possible for cotton to pass from producer to consumer with the minimum of obstruction, delay, and expense. The commercial cotton crop of the world runs year by year between twenty and thirty million bales (of five hundred pounds each), the exact amount varying by some millions of bales from year to year. The carry-over from one crop year to the next varies somewhat from year to year, but broadly the year's crop passes into consumption during the year of its production. The demand from cotton-spinners also varies from year to year and from month to month within the

year. What, now, is the right price for cotton during any crop year? Is it eight cents or twelve or twenty? It is the price that will keep cotton moving smoothly into consumption as it is wanted by the spinners and that will carry off the production in the course of the season. If the price is too high in the early part of the year, it may, to a certain extent, obstruct purchases and thus leave an undue part of the crop to be marketed during the latter part of the season at an unduly low price. Thus we have too high a price at one time and too low a price at another, instead of the ideal of a uniform price and a steady flow of cotton into consumption. Nobody knows or can know what the right price at any time actually is, and, moreover, the conditions are constantly changing, so that the right price itself changes; but the task of the exchange is solely to bring about all the time as close an approximation as possible to that right price.

Speculation and Prices

In this process, where does the speculator come in? The speculator, be it remembered, is neither a cotton-grower nor a cotton merchant nor a cotton-spinner, but a person who buys or sells cotton with a view to taking advantage of later price changes by selling or buying. If the price moves as he expects, he gains; if in the opposite direction, he loses. He is concerned solely with future price changes, not at all with the actual handling of cotton. At the same time, it must also be remembered, his operations affect the actual handling of cotton from day to day; for every day retail cotton-buyers are making prices to farmers for their crops, and sales of cotton are being made to spinners, all at prices determined on the exchanges, where the bids and offers of speculators are the chief price-determining force. Speculative sales and purchases are dozens of times as great as actual sales by cotton-owners and purchases by cotton-spinners, and a bid of twelve cents a pound for a hundred bales of cotton by a speculator has exactly the same effect on price at the time as a corresponding bid by a spinner. The only difference (and it is fundamental) is a later one, namely, that the speculator who has bought must later make a corresponding sale, while the spinner will actually take delivery and will never appear in the market as a seller of cotton. The real question, therefore, is, Does the speculator help to set the right price or does he not? If he does, then plainly he performs an economic service; if not, at best he is a parasite, at worst an actively injurious agent.

The economic defense of speculation rests, in the first place, on the contention that it gives us a nearer approximation to right prices of speculative commodities than we should have without it, and that therefore the processes

of producing and distributing actual goods go on more smoothly and economically than they would without speculation. The argument is fairly simple. The right price of this year's cotton crop is a purely mathematical relation between demand and supply, taking into account all existing production and consumption. The utmost that can be done by the most nearly perfect marketing arrangements is to approximate that price as closely as possible. Now the speculator alone, it is urged, by contrast with the planter, the merchant, the spinner, and all others who deal in cotton, is concerned solely with price. All others have important duties which occupy a large part, perhaps the most, of their time and attention; so at best they are inexpert judges of prices and are likely to make mistakes. The speculator as speculator has no business except to judge whether the price now is too high or too low, and to sell or buy accordingly. Therefore the speculator's judgment is likely to be better than that of the nonspeculative cotton community, and speculation is likely to raise prices when they are too low and to bring them down when they are too high.

Suppose that, as a consequence of ignorance and mistaken judgments on the part of those who actually grow and use it, cotton in the fall is selling at fifteen cents when it *ought* to be selling at thirteen. As a result, spinners are somewhat discouraged from buying, and a relatively large proportion of the crop remains unsold until the spring, when it is discovered that there is an unexpected abundance of cotton for sale, and the price, in order to carry off the surplus, falls to eleven cents. Too high a price in the beginning of the season makes inevitable too low a price later. Here let us introduce the speculator, in this instance the much-abused short seller, whose activities may be used to illustrate the economic service of speculation. In the beginning of the season, as a result of his superior judgment, he decides that the price is "too high," and that it must fall later. Therefore he sells short, making contracts *now* for the delivery of cotton *in future* at the prevailing high price. He does not now own a pound of cotton, but expects to be able, before the time when he must make delivery, to buy at a price below that at which he has sold. By such actions the amount offered at the prevailing price is increased, and the price is driven down, perhaps from fifteen cents to fourteen. In consequence actual takings of cotton by spinners are somewhat higher than they would have been at fifteen cents, and in the spring the amount available for sale is lower than it would otherwise have been. Moreover, at the later period, short sellers come into the market as buyers, to get the cotton to make good on their contracts. At this time their actions tend to increase the demand for cotton. Both influences work to raise the price, which consequently stands at twelve cents, say, instead of eleven. Thus the short sellers help both to lower the price at the earlier time,

when it is too high, and to raise it at the later period, when it is too low, in this way stabilizing it throughout the season. This result is desirable in the interest of the economical handling of the crop and the consequent lessening of the cost and price of cotton fabrics.

The result is brought about, it will be observed, by the superior judgment of the speculator. He sells when the price is high, for the very purpose of buying later to complete his sales contract when it is low. Of course, if his judgment is no better than that of the nonspeculator, he will be just as likely as the latter to make mistakes and there will be no reason for assuming that his influence on prices is a useful one. However, unless his price judgments are better than the average in the market, he cannot long continue to do business, because his only source of profits is his correct judgment of future price changes, whereas the cotton merchant gets pay for the handling and storage of the product, and the spinner for the operation of his mill. They can survive, therefore, even if they make mistakes regarding the movement of prices of the commodity they handle and use. But if the speculator is not right in his guesses more than 50 per cent of the time, his books at the year's end will show no gains whatever. Hence, it is urged, superior judgment of cotton prices is the condition of his business survival. Since speculation can be carried on successfully only by persons of such superior judgment, it is necessarily a price-stabilizing force. So far as speculation is governed by intelligent forecast of relatively long-time conditions, such as those affecting prices over a whole crop year, the argument appears sound, and the possible value of speculation from this point of view is conceded by all serious students.

Does Speculation Stabilize Prices?

The matter is by no means so simple, however, as might appear from the above presentation of it. The professional speculator, with whom for the moment we are primarily concerned, is more interested in short-time than in long-time price changes. He buys or sells in the wheat or cotton market not usually, as assumed in our preceding discussion, with a view to selling or buying again some months hence, when a major price movement may have taken place, but with the thought that prices may move up or down in the next few hours or days or weeks, thus giving him a quick profit and enabling him to enter on some new short-time operation. His actual business is a large number of short-time operations, not a few long-time ones.

A chart of price movements of any commodity on the exchanges shows that the price fluctuates constantly, often from transaction to transaction, from hour to hour, from day to day, from week to week, from month to

month. The short-time movements are quite independent of the long-time ones. The hourly and daily movements arise from causes quite different from those which determine the long-time trend of prices. At a time when it is reasonable to expect wheat to go down over a period of six months, it may be no less reasonable to expect it to go up over a period of six hours or six days. Under these conditions the speculator may buy, even though on a long-time view prices are already too high. He may even do it with the definite idea of helping to drive immediate prices yet higher, with the expectation that he will be able to close out at a profit on the bulge before the inevitable decline comes. A realistic view of speculation must therefore discard the picture of the professional speculator as the cool and intelligent student who pits his own judgment of prices over a period of months against that of the market at large, and backs that judgment with his own money in a few major transactions on whose issue depends great gain or loss. It must substitute in his place the operator quick to sense the probable movement of prices in the immediate future, buying and selling for the quick turn, and giving only secondary, if indeed any, consideration to the long-time price movements in connection with which he is supposed to make himself useful. From this point of view the stabilizing influence of speculation on prices becomes far less clear.

It becomes even more doubtful when we think of the considerable proportion of speculation that is carried on by others than professional speculators of the type with which economic thinking has concerned itself. They have neither special information nor special judgment above the ordinary run of businessmen. They are attracted to speculation because it seems to offer a way of making easy money, just as they are attracted to betting on a dog race for the same reason. This, moreover, is a permanent class of speculators, though the members of the class constantly change as some lose their money and are succeeded by others with money to lose. While they operate chiefly in the stock market (soon to be discussed), a certain amount of speculation in commodity markets is of essentially the same type. So far from making for stability of prices, such speculation, without much question, increases price fluctuation by bringing into the market large amounts of money to be wagered on the unsubstantial rumors and the irrelevant facts that for some strange reason strongly affect the immediate course of prices in every speculative market.

Speculation is, then, in part a matter of cool calculation, which insofar as it concerns itself with long-time considerations probably makes for stability of prices, but insofar as it concerns itself with short-time matters seems quite as likely to make prices less rather than more stable. In part it is essentially a matter of gambling, which probably exaggerates price changes, because

ordinary nonprofessional speculators act more or less like a flock of sheep running after the leader. The "lambs" of the market are lambs not alone because in time they are pretty sure to be shorn but because they frequently act like the "woolly idiots" whose name they bear. It is for reasons such as these that legislation has restrained the activities of traders on the commodity exchanges.

The Economic Service of Hedging

There is a second service which the speculative market unquestionably performs. It enables the ordinary businessman who wishes to avoid certain inescapable risks of his business to transfer them to a speculator. The risk of fire he transfers to an insurance company by the payment of a regular yearly premium. The risk of changes in the price of wheat, inherent in the milling industry, and that of changes in the price of cotton, inherent in the cotton-spinning industry, the miller and the cotton-spinner transfer to a speculator by the operation known as *hedging*. The essence of a hedge is the making of two contracts or two commitments by the hedger at the same time and on opposite sides of the market. If the hedger buys for his business needs, he must at the same time sell on the speculative market; if he sells in carrying on his business, he must buy on the speculative market. If the student but grasps this fact and remembers that two sets of opposite and distinct operations are begun and completed at the same time, he has gone a long way toward understanding a hedge.

An illustration will make the principle of hedging clear. Suppose that a miller is manufacturing flour for sale through the trade at the market price, whatever that may be. Assume that on the average two months intervene between the time of buying the wheat and that of selling the flour. The price of flour rises and falls with that of wheat, so that if wheat goes down in the course of the two-months' manufacturing and marketing period, the miller may have to sell his flour at a loss. It takes about $4\frac{1}{2}$ bushels of wheat to make a barrel of flour, and $9.50 a barrel is a satisfactory price for flour made of dollar wheat. The miller *buys* 45,000 bushels for a month's operation in his mill at the price of $1. At the same time he *sells* on the commodity market 45,000 bushels for May delivery at $1.05. This latter operation, it will be observed, is a short sale; he owns no May options. When his flour is sold two months later, the price of wheat has fallen to 95 cents, so that his flour brings in only $92,750 instead of the expected $95,000, the difference representing the decline of five cents a bushel on the 45,000 bushels of wheat used in its manufacture. At the same time that he sells his flour, however, the miller

covers his May contract in wheat by buying 45,000 bushels for May delivery at a price five cents lower than the price at which he sold two months earlier, thus making a profit of $2250, which just makes up the loss on his flour. By hedging he has protected himself against the danger of loss arising from price changes beyond his control. If, on the other hand, the price of wheat had gone up, and the price of flour with it, his extra gain on milling would of course have been canceled by the loss on his speculative contract.

Hedging, of which we have given a simple example, is a common practice among businessmen who have to deal with commodities in which a speculative market is maintained, and who wish to insure themselves against loss from unfavorable price movements. It is not the manufacturer alone who avails himself of the facilities of the speculative market in order to shift risks. A small local grain-buyer in the Mississippi Valley who buys grain in the late summer and fall in order to store it in his warehouse and sell it in the spring at a small advance covering his storage and handling charges will sell for May delivery as fast as he buys actual grain, thus protecting himself against the danger of loss from price declines. Similar practices are to be found wherever marketing conditions permit such a shifting of the inevitable risks of price movements. In our example, by *buying* wheat and making flour for sale at an uncertain future price, depending on the future price of wheat, the miller ran the risk of a loss from a *fall* in the price of wheat, which he countered by *selling* wheat for future delivery, in order to make a corresponding *gain* through a fall in the price at which he could cover his future contract. To be on both sides of the market in corresponding amounts at the same time is a sure way of avoiding loss from changes in price. This is what the nonspeculative businessman wants to do. It is an equally sure way of making no profit from the change in price. Since the making of a profit through a change in price is the essence of the speculator's business, he, on the other hand, is glad to assume the risk in the hope of the profit.

The speculator, in thus taking the risk off the hands of the merchant, manufacturer, or other businessman who does not want to carry it, is performing a valuable economic service. In our illustration, in order to run his mill steadily and economically, the miller has to turn out his flour in advance of sale, thus incurring the danger of loss through a fall in the price of wheat. In this example, as in every hedge by a nonspeculative businessman, the hedger escapes the risk by transferring it to the shoulders of the speculator.

The cost of carrying the risk is evidently a necessary part of the cost of production, which ultimately must be carried on into the price paid by the consumer. If the miller were unable to shift the risk, then he would have to make an added charge for carrying it. Rather than carry it himself, he in fact

prefers to pay the commissions on his purchases and sales of the May option, the interest on the money he has tied up in the transaction, and the other necessary expenses incident to his speculation, all of which were omitted in our discussion. Evidently he finds hedging the most advantageous way of meeting this risk, just as he finds the payment of fire-insurance premiums the most advantageous way of meeting the risk of fire.

Is the method equally advantageous from the standpoint of the community as a whole? At first view it would certainly appear so. The businessman chooses that method because he thinks it the safest and cheapest method of covering a necessary expense of his business. In his judgment it lowers his cost somewhat, and therefore is likely ultimately to lower somewhat the price the public must pay. This judgment is to an extent reinforced by the consideration that the speculator's business existence depends more completely than the businessman's on his being an expert judge of the future course of prices. As an expert judge he can afford to carry the risk of price changes more cheaply than the nonspeculative businessman. It therefore appears reasonable to conclude that hedging maintains itself, because it has proved in experience the most economical way of meeting certain inevitable risks that necessarily enhance cost of production and price.

On the other hand, in view of our somewhat uncertain conclusion concerning the effect of commodity speculation on prices and their fluctuations, a measure of caution in accepting this opinion when applied to speculation in general seems advisable. If in fact speculation enhances price fluctuation instead of conducing to price stability, then in part it creates the very risks against which it offers the businessman the cheapest insurance. If, however, it does actually help to stabilize prices, as is maintained by its defenders, then it performs a double service—first, in lessening risks, and secondly, in providing producers with a kind of insurance against those that remain. The making of a certain judgment is by no means easy.

The growth of a nation-wide and world-wide economy has enhanced the importance of the commodity exchanges, and has likewise enhanced the importance of the time element in their operations. It has thus inevitably brought about a growth of speculation, which concerns itself wholly with price relations over a period of time. The abuses that have accompanied this growth are apparent, and its demoralizing influence in distracting men from actual income production into the primrose paths of speculative easy money is undeniable. The net economic serviceableness even of intelligent professional speculation is by no means so indubitably clear as it appeared to the writers of the past generation. No economic defense whatever can be offered for that large body of speculative activity carried on in amateur fashion by people

who in effect do nothing more than gamble on future prices. Yet the abolition of speculation within any economy based on private enterprise and a free market is apparently impossible. If it were possible, it would be necessary to devise some substitute to render the service now performed by the hedge.

Security Exchanges

Security exchanges are much the same as commodity exchanges in their organization, but their members deal in securities instead of commodities. With the growth of corporations of the quasi-public type there has come into existence a huge volume of stocks and bonds to be sold to the general public. The security exchanges maintain markets for such securities, just as the Chicago Board of Trade maintains a market for cereals. According to the studies of the Twentieth Century Fund the par value of bonds outstanding in the United States in 1930 was about 78.5 billion dollars, of which 64 per cent, or about 50 billions' worth, were listed on our stock exchanges. The book value of all corporate stocks outstanding at the same time was estimated at about 161 billion dollars. Out of a total market value of railroad, public-utility, and industrial stocks of 55 billion dollars in 1932, 70 per cent were listed on the stock exchanges. The total number of stockholders in 1932 is estimated as between 10 and 12 millions, and of bondholders, including the great institutional investors like savings banks and insurance companies, as between 6 and 10 millions. The enormous extent of the markets maintained by the security exchanges is sufficiently suggested by these figures, and the effects of speculation on these exchanges are evidently deserving of study.

According to the Report of the Securities and Exchange Commission, there were on June 30, 1944, nineteen exchanges registered as national security exchanges under the Securities and Exchange Act of 1934, and five minor exchanges granted exemption from such registration. The New York Stock Exchange is vastly more important than all the rest of them put together. With the New York Curb Exchange it may be said to handle almost all the sales of securities on exchanges except securities with exclusively local markets, as the figures in Table XIV clearly show. The New York Stock Exchange alone, it will be observed, did 85 per cent of all the business, while the twenty exchanges outside New York City all together did little more than 4 per cent of it, or less than one twentieth of what "the big exchange" did, and somewhat more than half of what was done on the curb exchange. The report of the Twentieth Century Fund[3] estimates that

[3] *The Security Markets*, Findings and Recommendations of a Special Staff of the Twentieth Century Fund (Twentieth Century Fund, Inc., 1935), pp. 43–44.

Table XIV · Market Value of Sales on Registered Exchanges, July 1, 1943, to June 30, 1944[4]

	TOTAL (IN MILLIONS OF DOLLARS)	PER CENT	STOCKS (IN MILLIONS OF DOLLARS)	PER CENT	BONDS (IN MILLIONS OF DOLLARS)	PER CENT
All exchanges	10.7		8.7		1.9	
New York Stock	9.2	85.9	7.4	85	1.7	89
New York Curb	.9	8.4	.7	8	.1	.5
All others	.6	5.6	.6	6.9	.1	.5

in 1930, 77 per cent of all bonds and 60 per cent of all stocks listed on the exchanges of the United States were listed on the New York Stock Exchange. In view of the overwhelming importance of this exchange we shall confine our description to it.

Originating in the meetings of a group of brokers under a buttonwood tree, and formally organized in 1792, the New York Stock Exchange today is a voluntary unincorporated association of 1375 members, the majority of them partners in some 630 brokerage and investment firms known as "member firms." It makes its own rules but, like all security exchanges, since 1934 has been subject also to the rules and regulations laid down by the Securities and Exchange Commission. Memberships are transferable with the approval of the exchange, and since the year 1900 seats have sold at prices ranging from $17,000 to as much as $625,000—the latter figure, needless to say, being attained in the wild stock-market days of 1929. The highest price paid in 1943 was $48,000.

The great hall of the exchange, an enormous room 100 by 183 feet, is the terminus of 2000 private telephone lines connecting brokers on the floor with their offices in New York, which, in turn, are connected by private wire with their 1100 branch offices, 130 member correspondents, and 3900 nonmember correspondents all over the country. Of course the exchange maintains every known facility for the immediate collection and transmission of information, and a constant stream of price quotations flows out over the ticker to thousands of offices in every part of the country every business day in the year.

Security speculation is predominantly speculation in common stocks. According to the figures for the year 1943–1944 already given, over 80 per cent by value of sales on our exchanges were stock sales, and of these 86 per cent took place on the New York Stock Exchange. Bonds are sold mostly over the counter, as it is called, that is, not on the exchanges. They are bought, largely at wholesale, by banks, insurance companies, and other institutional

[4]Tenth Annual Report, Securities and Exchange Commission (Washington, 1945), p. 240.

investors, who buy direct from bond dealers instead of through the exchanges. The economist of the stock exchange points out that the proportionate importance of the exchange market in the entire New York market for bonds has declined since 1900, and it may be doubted whether the whole exchange market for bonds has any great importance. For the most part the bond market is an investors', not a speculators', market. During the highly speculative year 1929 the total turnover of bonds on the New York Stock Exchange was just above 6 per cent of the average listings. The corresponding figure for stocks was 116 per cent, nineteen times the bond ratio.

Between preferred and common stocks the same distinction holds, though in lesser degree. In 1929 the ratio of turnover to total issue for Radio Corporation was 635 per cent for common stock, and 61 per cent and 13 per cent for the two classes of preferred stock. Corresponding figures for General Motors were 68 per cent against 28 per cent and 10 per cent; for United States Steel, 272 per cent against 7 per cent; for Consolidated Gas, 130 per cent against 14 per cent; and so on through the list. Plainly speculation centers in common stocks. Further, it does not occur indifferently in the common stocks of all corporations. Of 16,975 corporations important enough to be listed in Moody's manuals of corporation securities at the time of John T. Flynn's study of speculation in securities,[5] only about 1000 had any securities listed on the New York Stock Exchange. Among these, in the words of Mr. Flynn, from whom we have quoted the figures of this paragraph, "the great bulk of speculation takes place in only a limited number . . . perhaps ten per cent. And of these corporations whose stocks make up the great volume of speculation, the game is played in only a fraction of their securities." The reason for this concentration of speculation on common stocks is clear enough. If anyone wishes to buy and sell something with a view to making a profit from fluctuations in its price, he will choose for the purpose something that actually fluctuates in price. Bonds and preferred stocks, with their more or less fixed returns, change little by comparison with common stock, which may command large dividends under good conditions and none at all under bad ones. These facts must be kept in mind in considering the economic services of security speculation.

Another important fact to be remembered is that exchange members are both brokers and traders. Some firms do only a brokerage business, but most of them trade on their own account also, and earnings therefore come both from commissions paid by others and from profits on their own trade. During the period of five years and eight months between January 1, 1928, and August 31, 1933, the income of member firms on the New York Stock Ex-

[5] *Security Speculation* (Harcourt, Brace and Company, 1934); see page 43.

change, as officially reported to a Senate committee, was 2153 million dollars (as against expenses, including uncollectable accounts, of 1265 millions). Of such income, about 70 per cent came from commissions, 15 per cent from interest, 11 per cent from trading profits, and 4 per cent from miscellaneous sources. For the prosperous year 1928 the corresponding percentages were 60, 14, 22, and 4. It will be observed that while commissions are the great source of income, in 1928 trading profits made up more than one fifth of the total. During July, 1933, members of the exchange or their partners were on the buying or the selling side of more than half of all the trades of the exchange. No matter what the source of incomes, the greater the amount of business done on the exchange the larger are the revenues of its members. Consequently, despite all protestations to the contrary, it is to the interest of exchange members to encourage speculation, which is the great source of their income. Further, while all exchange members have such an interest, those that do not do a purely brokerage business are interested as principals in a considerable proportion of the transactions in which they engage. This double relation of an exchange member, as broker for others and as speculator on his own account, has been the subject of prolonged study by the Securities and Exchange Commission. Its investigation convinced the commission that "floor traders"—that is, brokers trading as principals—had an advantage over the general public, that they accentuated fluctuations in particular securities, and, in general, reduced the stability of the market. It suggested that floor trading be prohibited on the New York Stock Exchange. This the exchange opposed, but agreed to limitations on the activity of floor traders sufficiently severe to mitigate the evils of such trade.

We shall make no attempt to describe the complex machinery of the exchange, except so far as is necessary to show how it is possible to carry on speculation in securities. Before any security can be admitted to trading, the issuing corporation must apply to have it listed, accompanying its application by the considerable body of information required by the exchange. The object of these listing requirements is to give some assurance of the genuineness of the company and the issue and to provide information of assistance to security dealers and buyers. Needless to say, approval of the application by the Committee on Stock List carries no guarantee of the value of the securities listed; yet up to the passage of the Securities Act of 1933 the exchange listing requirements, which include periodical reports by the listing company, were perhaps the most important single influence making for publicity of corporate finances.

Actual transactions on the exchange are essentially the same as the corresponding transactions on the commodity exchanges, with one important

difference: there are no sales for future delivery on the stock exchange. All securities sold, broadly speaking, must be delivered and paid for on the second full business day following the sale. Since speculation on the commodity exchanges takes place in futures, and since there are no futures in stock sales, a question at once arises as to how speculation is possible in securities. The answer lies in the system of security loans. The great body of most stocks, once they have been distributed, are in the hands of investors, who keep them locked up in their safe-deposit boxes. But distribution is often a process requiring a long time, and even after it is accomplished a certain amount of any given stock is likely to remain in the hands of speculators or speculative investors. The part of a stock issue at any time held by speculators is known as the "floating supply." How is it to be distinguished from the part held by investors?

Roughly speaking, the floating supply is held in the name of brokers, and, as we shall see in a moment, this fact is of determining importance in making speculation possible, since the floating supply offers a substitute for the future delivery of the commodity exchanges. Of the thirty issues most active on the exchange in 1929, the proportion of floating supply (held in brokers' names) to total issue varied from 2.4 per cent for United Gas Improvement Company and 4.12 per cent for American Telephone and Telegraph Company (solid old issues) all the way up to 64.52 per cent for Chrysler Corporation and 65.27 per cent for Consolidated Oil Corporation. The United States Steel Corporation ever since 1904 has published figures showing the proportion of its stock held in the name of brokers. At the end of 1909, more than seven years after its formation, two thirds of its common stock was still so held. By the end of 1920 the speculators held only about one quarter, and since that time the ratio has run along usually between 20 and 30 per cent. In 1932 it fell to 12 per cent; on December 31, 1944, it was 31 per cent. For its preferred stock, a far less speculative security, brokers' holdings fell from 17.57 per cent at the end of 1909 to 7.53 per cent eleven years later. On December 31, 1944, the figure was 17 per cent. Such figures give some indication of the extent to which the stocks of corporations are available as counters, so to speak, in the speculative game. In the early days of any issue a large part of it is likely to be held in brokers' names. As the process of "seasoning" goes on, a larger and larger proportion of any sound issue finds its way into the hands of investors, but a certain amount, even though it be small, remains in the offices of the brokers, so that speculators can still buy and sell the stock without really owning it, just as speculators can buy and sell wheat without really owning any. And just as the activities of speculators are of chief immediate importance in fixing the price of actual wheat, so are they of chief

immediate importance in fixing the prices of actual shares of stock of any issue that is the subject of extensive speculation.

How does broker-held stock make speculation possible? Such stock, largely owned by speculators, is held in the name of a broker and is lent to other speculators who wish to sell short. Speculator Allan thinks that the price of Auburn Motors stock is going down. He sells a hundred shares short to speculator or investor Bruce. At the close of the exchange on the day of the sale Allan's broker joins the "loan crowd" (brokers wanting to borrow and lend stocks) and borrows 100 shares of Auburn from a broker who has such shares to lend. Not later than the second full business day after this the shares are turned over to Bruce's broker. This makes the delivery required by the rules. As long as Allan wishes to remain on the short side of the market, and as long as he maintains the required margin with his broker, so long will the loan of the stock continue. Thus, it will be observed, it becomes possible in effect to sell securities for future delivery, even though actual delivery is required on the second day following the sale. Even more striking, it becomes possible to defer delivery not, as in commodity speculation, to a definite future date but, to all intents and purposes, indefinitely, since it is practically always possible to extend a stock loan or negotiate a new one. As long as a speculator wishes to maintain a short position, therefore, so long can he in effect defer delivery. There is no definite delivery date. Once more we omit the technical details of stock loans and the expenses involved, all of which have to be taken into account by the speculator in making his practical business calculations. They do not in any way affect the substance of the argument concerning the relations of speculation to prices and production, to which we now turn.

The Economic Functions of Security Speculation

The economic functions of security speculation resemble those of speculation in commodities, but there are also important differences to be discerned. Commodity speculation, it was agreed, facilitates production insofar as it gives the businessman the chance to shift unwelcome risks by hedging. It is hard to find any closely corresponding service performed by security markets. The more general service of commodity speculation (less successfully performed) was the establishment of a price which should carry the good from producer to user or consumer smoothly. Speculation on the stock exchanges plays a dominant part in fixing the prices of the securities traded in, just as speculation on the commodity exchanges plays an all-important part in fixing the prices of actual grain sold in all the markets of the world. There is what might be called a "right" price for United States Steel Common, just as there

is a "right" price for the 1947 wheat crop. These "right" prices are prices which, in general, will direct new funds into industries which are meeting the productive needs of the country. It is the function of the exchange to fix these "right" prices. Here, however, we find an important difference. The commodity exchanges are concerned with goods which are just passing into use or are to come into existence in the near future. In security markets much of the trading consists in the transfer of titles to ownership of wealth already created rather than in facilitating the investment of capital in the production of new wealth. That is to say, instead of dealing exclusively in new security issues to be sold to investors for the purpose of providing added capital for expanding industry, security speculation takes place largely in old issues. These have already been distributed, and thus the prices established on the exchange are chiefly prices for old, not new, securities. All this is not to say that security speculation performs no useful function. It is merely to state that its functions differ from those of the commodity exchanges.

With some understanding of what security speculation does not do, we can turn to the question in which we are most interested. What services does such speculation perform in the actual production and distribution of the goods which constitute the income of the United States? The fact that a considerable number of persons make their living, and some of them make respectable fortunes, by security speculation proves nothing whatever with regard to its economic usefulness. Does it perform a necessary function in our economic system, and does it perform it efficiently and economically? Under a corporate organization like ours, with capital in demand aggregated to enormous amounts, a public market for corporate securities has become a necessity. The security exchanges constitute an important part of such a market. In over-the-counter trade—that is, trade outside the organized exchanges— issuing corporations are the sellers; investors, both institutional and individual, are the buyers; investment banks, underwriting syndicates, and security brokers of all kinds are the middlemen. On the exchanges some of the sellers are these same middlemen, and some of the buyers are investors, but as regards common stock the great body of buyers and sellers are speculators. Here the speculator, as opposed to the investor, always stands ready to buy at some price; and speculation, therefore, offers a continuous market. This continuous market, it is argued, facilitates all corporate financing. The first service of security speculation is, then, the creation of an ever-functioning market for securities.

Indeed, it is sometimes maintained that without a continuous market the investor would not buy corporate securities at all, since even he, though he does not buy in order to profit by selling, must be able to dispose of his hold-

ings at need. Thus speculation is held absolutely essential to corporate existence as well as corporate growth. The available facts do not support the contention in so sweeping a form. Mr. Flynn points out that in 1929 at least $35,000,000,000 were invested in real-estate mortgages and mortgage bonds, for which there is no continuous market. As shown above, the studies of the Twentieth Century Fund indicate that a full third of our corporate securities themselves are not listed. A large part, even of security investment, thus has gone into securities for which no continuous market is maintained by organized speculation. But this is not all. In respect to the railroad, steel, and automobile industries, Mr. Flynn shows that the original financing was done almost wholly without reliance on the speculative market. Shares, when issued, were sold direct to investors. That aside, new funds were brought into these industries largely through the turning back of profits or the sale to the public of bonds rather than stock. This appears true of most industries. The stock market has very little to do with the pioneer financing of industry.

Yet further, even strong corporations in established industries make little direct use of the exchanges in disposing of common stock, though investment bankers and underwriting syndicates do utilize their facilities for the secondary distribution to the public. That giant model of good financial practice, the American Telephone and Telegraph Company, which finances its constantly growing needs almost wholly by additional issues of its single class of stock, gets its new money largely from its own stockholders. They find their rights to subscribe so valuable as to be eagerly snapped up whenever the owners want to sell them. In the light of these facts it cannot well be maintained that speculation, with its continuous market, is absolutely necessary to the existence or the expansion of our vast corporations, however great a convenience it may on occasion be to corporate management.

Rejecting this extreme contention, however, we must yet examine with care the idea that speculation facilitates corporation financing. It will be conceded without argument that a continuous market, making it possible to turn securities into cash at a moment's notice, increases the attractiveness of corporate as compared with other kinds of investment. The greater marketability of listed as compared with unlisted securities is indisputable. Beyond this, it is maintained that speculation plays an important role by creating a market for securities at the time of issue, during the so-called "seasoning" process. The speculator buys on a chance, so to speak, while the investor is waiting to find out what the security is really worth. Once the process of distribution is completed, speculation by helping to put the right prices on securities tends to keep the whole capital structure in balance with the earning power of the various concerns represented. This makes possible the issue of

new securities as needed at right prices. It promotes a healthy corporation development by helping to direct the flow of new capital into the right channels, thus enabling productive industries and undertakings to get funds at reasonable rates and choking off unproductive ones by making it impossible for them to market new securities. Here is the heart of the question whether security speculation is economically serviceable.

In examining the argument that commodity speculation sets the "right" commodity prices it became clear that the right price for efficient production and distribution has not always resulted from the actions of speculators. In considering security prices the facts appear even more unfavorable to the contention that speculation sets right prices. The right price for a security depends, broadly, on the reasonable anticipation of income yield. The price is, or should be, at bottom a reflection of the long-time earning capacity of the issuing concern, with due regard for all prior claims on such earnings. Though it is prospective income which concerns the investor, it is not for the sake of protecting his interests that we thus define right price. The important social objective is to direct the movement of capital into those uses which will yield the greatest future production. If this is accomplished by the prices established by security speculation, the interests of investors and of the body of consumers will both be served. The speculator is conspicuously not interested in these long-time considerations. He wants to know what the market is likely to do tomorrow or next week or next month. Any chart of security prices shows upward or downward movements extending over a period of months and even years, depending at bottom on the financial prosperity of business in general and of the individual concern in particular. These movements have become known as the primary swings. But within any period of a few months there are to be discovered minor upward and downward variations (as from week to week) called secondary swings. Within these secondary swings may be discerned yet shorter-lived price changes, the actual movement of prices not only from day to day but even from hour to hour and from transaction to transaction—the so-called tertiary swings.

Speculation, as we have seen, concerns itself almost wholly with the short-time movements, the secondary and tertiary swings. The professional speculator buys and sells not "for the long pull" but in order to sell or buy the next hour or the next week if the price has then moved as he expects. His business is not concerned with the right price as we have defined it above, nor does he direct his operations, except incidentally, with any reference to it. Even though the price over a long period "ought" to go up, it may equally well be that the speculator for some adequate reason expects it to go down in the near future, and that he therefore will sell now, although on the long-time

view he ought to be buying. The long-time and short-time movements depend on essentially different causes, and there is no evident reason for thinking that the legitimate activities of the intelligent professional speculator exercise significant influence in fixing the right long-time price. In discussing the service that the stock market should perform in putting the right prices on corporate securities, the Twentieth Century Fund report declares:[6] "The technical nature of the facts essential for proper evaluation, and the difficulties involved in their appraisal, lead to the conclusion, likewise vital, that in order to obtain the best results, trading should be restricted to those who base their actions upon study of long range movements of earnings and of the accretion of new savings." Anything more accurately descriptive of what the professional speculator customarily does not do would be hard to find.

But if this is the best that can be said for the professional security speculator as a price-fixer—and much worse must be said at a later point—the case is still less favorable for the nonprofessional, who would be most accurately, if not most politely, described as a security gambler rather than speculator. There is every reason for believing that the great body of nonprofessional speculation sends stock prices higher when they are already too high, and consequently forces them lower when they are already too low, measured by the right price as we have defined it. The ordinary speculator has neither special intelligence nor special knowledge. He has the usual human desire to make quick and easy money, and he has rather more than the usual willingness to take a chance. For the rest, he depends for information on what he can pick up from his banker or broker or golf partner or fellow club member, from the newspaper and the financial sheet, from tips of all kinds. It is the psychology of the race track rather than of the solid business establishment that governs his actions. The ordinary outsider has no special information, and would be little capable of using it if he had it. He makes money at one time and loses it at another. If he is finally cleaned out and drops out of the market, his place is soon taken by someone else of the same adventurous temperament. The majority of such speculators finally lose money. Mr. Flynn, who places the entire number of speculators in the United States at not more than a million as an outside figure, quotes a leading Wall Street broker as estimating the life of the average account in a broker's office at eight months.

Speculation and Runaway Markets

Against the conventional economic picture of the speculator as the cool student of values, forever operating with a view to the long-time worth of

[6] *The Security Markets*, p. 31.

the securities that he buys and sells, therefore, we must set the reality, namely, the small group of professional inside speculators, on the one hand, trading with full knowledge but concerning themselves almost wholly with short-time and not long-time prices, and, on the other hand, the vast majority of speculators, operating without special knowledge and essentially betting on the course of future short-time prices. At times of business prosperity, when stock prices normally rise, the professional operators naturally see the advantages of operating on the bull side of the market, that is, in accord with the influences which are pushing prices up. As prices advance the ordinary speculators are more and more drawn in by the vision of quick and easy gains. With their own and sometimes with borrowed money they buy stocks on margin, their brokers borrowing for them the remaining amount required to make payment (now 100 per cent) and putting up the purchased stocks as collateral. Fresh speculators drive prices up, thus increasing the value of the securities pledged by margin buyers and enabling them to borrow and buy further. Every added rise in price increases the enthusiasm for further buying, and the eagerness of speculators to borrow and buy more. Brokers' loans, for the purpose of carrying the margin accounts of their customers, rise rapidly with the rise of stock prices, and each increase of loans means the possibility of further rise of prices. Security prices under such conditions cease to bear much relation to earning power and are fixed on the basis of a mob psychology inflamed by examples of spectacular easy gains and the hope of their indefinite continuance.

It is speculation of the type just suggested, operating with all the facilities put at disposal by margin trading and well-nigh unlimited loans for speculative purposes, that results in the wild excesses of great bull markets such as that which crashed in October of 1929. Stock prices are driven to absurd heights, from which they inevitably drop to no less absurd depths. In the process the normal financing and operation of legitimate industry are subjected to disturbances of serious and sometimes catastrophic character. No one denies that it was speculation, and essentially nothing but speculation, that carried the *New York Times* monthly average of prices of fifty combined stocks from a point below 140 at the beginning of 1927 to about 180 a year later, and then, in a wild orgy of buying, to 240 at the beginning of 1929 and so on to a culminating peak of more than 300 in September. In October the financial machinery could no longer stand the strain, and the market collapsed. By November prices had tumbled below 200, and during the next two years they continued their precipitous decline, to reach a low point of less than 40 in the first half of the year 1932, about one eighth of the peak of September, 1929. It was not primarily speculation, but the collapse of industry and finance,

that drove stock prices down to such bankruptcy levels; but it was speculation that had boosted them to the fantastic heights of September, 1929, and had made inevitable the market collapse following, which in its turn contributed materially to the subsequent industrial debacle. By its very nature speculation, as it has been conducted on American exchanges, appears to be a major influence in exaggerating the fluctuations of security prices. In the interest of industrial stability it is highly desirable to reduce such movements to a minimum.

Manipulation and Security Prices

It is not alone in the larger price movements that speculation exercises a more than questionable influence. The popular idea that prices are made at will by speculators is nonsense, of course; but detailed investigation of the facts, as opposed to general reasoning about what must happen under certain assumed conditions, shows the reality of a considerable measure of price control exercised by certain groups of speculators and their financial associates. Theoretically the exchange is a great public market in which buyers and sellers meet and by their free bids and offers establish prices representing the fair present value of the securities sold. Practically, under ordinary conditions when there is no general speculative excitement, the exchange fulfills this, its normal economic function, well as regards that great body of listed securities in which there is little speculation. In other words, the exchange is a good market as far as it is not a speculative one, and it has already been indicated to how great an extent listed securities are of a nonspeculative character. It is the speculative favorites, however, that provide the bulk of the business on the exchange, and it is to their values that the argument that speculation sets right prices should apply. We have already indicated that professional speculation probably does little or nothing to bring about right long-time price movements, and that nonprofessional speculation helps powerfully to make them wrong. How about the shorter movements?

The orthodox view has been that speculation prevents the fixing of wrong temporary prices. In the words of the economist of the stock exchange, if the price "becomes at variance with the inherent value of the security, a chance for profit is at once afforded to speculators from coast to coast. The tremendous counter-pressure which this national and readjusting speculation exerts, no manipulator or group of manipulators can withstand."[7] Against this view we may set the flat statement of John T. Flynn: "The secondary swings are al-

[7] J. E. Meeker, *The Work of the Stock Exchange* (The Ronald Press Company, 1930 edition), p. 49.

most wholly moved by professional manipulation."[8] If speculators are primarily cool students of long-time values, the force of Mr. Meeker's observation is apparent. If they are short-time professionals and ignorant sheeplike amateurs, then it is plain that particular prices on the exchange may for a time be put up or down not by what is called the free play of market forces but by the operations of strong groups of buyers or sellers purposing to raise or lower the price for their own advantage. Of course it is not possible to control the whole market, nor is it possible to control the price of a particular security indefinitely. Sooner or later a stock is bound to find its true level. Yet manipulation of the stock market is a fact and an important fact.

Manipulation is defined in the Twentieth Century Fund report as "planned effort by an individual or group of individuals to make the market price of a security behave in some manner in which it would not behave if left to adjust itself to uncontrolled or uninspired supply and demand."[9] The purposes of manipulation are various—some innocent, others quite the reverse. It is conducted mostly by pools and syndicates, which employ a great variety of methods of inspired publicity and artificial trading, working not infrequently outside the exchange as well as inside. During recent years such a body of information concerning operations of this type has become matter of public record that attempts at denial of their importance are useless, and demands for reform have resulted in Federal legislation. We here assert no more than that such operations are not, as a rule, calculated to set right prices, but we cannot forbear quoting a single sentence from the Twentieth Century Fund report:[10] "The type of manipulative operation ordinarily undertaken by stock market pools in this country has been for 40 years or more fraudulent under the accepted interpretation of common law in Great Britain."

Without passing any judgment on either the morality or the legality of various forms of manipulation, we find it necessary to point out that manipulative activities are by no means limited to the pirates and buccaneers of the financial community, though they of course are the most reckless and irresponsible of such practitioners. In the first place, it is accepted financial practice for bankers and underwriters distributing a new listed bond issue, to make use of the stock exchange to peg the price during the period of distribution. By simply giving their brokers orders to buy at a fixed price any of the new issues that may be offered for sale, they can, if they have judged the market rightly, prevent the price from falling below the point fixed and thus avoid having to market any part of their holdings at a lower figure.

[8] *Security Speculation*, p. 76. [9] *The Security Markets*, p. 444. [10] Ibid., p. 505.

In the second place, it is common underwriting practice, in marketing a new stock issue, to employ brokers to "make a market," as it is called. In this operation it is necessary both to buy and to sell the new security, the object being to buy judiciously in order to support the price, and at the same time to sell more than is bought by the brokers and thus to dispose of the holdings that are to be marketed. The technique is more complicated than in pegging, but the purpose is essentially the same, namely, to enable the underwriters to dispose of their holdings at what they consider a fair price, which is generally, in fact, a higher price than they could realize in the absence of such operations. These practices are stoutly and plausibly defended even by the reputable financial community. Rather clearly, they result in the investor's paying more than he would otherwise do for the securities involved; if they did not, it is hard to see why the sellers should employ such devices.

While the use of such means is defended in the marketing of new issues or in supporting the market during emergencies, few reputable businessmen or economic theorists can be found who have a good word to say of manipulation for the purpose of making a speculative profit. The exchanges themselves have frowned on the grosser manifestations of such abuses, and the Securities Exchange Act of 1934 and the activities of the Securities and Exchange Commission are directed in no small part toward wiping them out as far as possible. Up to the passage of that act small success had attended efforts to get rid of the manipulation that forever goes on in Wall Street, turning now to this security and now to that as operators think they see a possibility of profit here or there.

Summary

We summarize our conclusions about the effects of speculation on security prices as follows. There is no reason to believe that the activities of professional speculators tend to keep the long-time trend of security prices in any kind of right relation to "real" security values. Nonprofessional or "outside" speculation exaggerates greatly the upward and downward swings. In total, speculation causes a definitely wider swing than would occur if there were no speculation and security prices were made wholly by the bids and offers of investors. Such widening of the movement is almost wholly disadvantageous to every legitimate economic interest of the community, and of no service to anyone but the speculators who gain from it. In short-time movements the case is no better. Professional speculators and their financial allies naturally and unavoidably wish for as much speculative excitement as possible, since members of the exchange, a large part of whom are both brokers and traders,

profit in both capacities with the increase of speculation. Say what they will, the golden days to them are still the days of 1929. The manipulation forever going on in one issue or another is almost wholly a matter of trying to fix "wrong" prices, however good may be its intention in particular instances. Contrary to what has been commonly believed by students of economics in the past, our conclusion is that speculation definitely makes for wrong and not for right prices for securities. The reader should be warned, however, that probably the weight of informed opinion at the present time still leans to the view that it works for approximation to the right prices.

Speculation and Liquidity

If security speculation, as is here argued, tends on the whole to set wrong rather than right security prices, and thus to increase financial losses and industrial instability, and if, as suggested above, it is consequently of doubtful utility to sound corporate financing, what economic service does it perform? By helping to provide a continuous market it doubtless does aid in making it possible for the investor to turn his securities into cash at a moment's notice. Such a power is a great convenience to the security-owner, and may be a source of strength to the particular business unit in time of stress.

From the standpoint of the community as a whole, however, the extreme liquidity of investment thus made possible may become an element of weakness instead of strength. When great numbers of investors, as well as of speculators, try to save themselves by turning their securities into cash at the same time, as they did in the fall of 1929, the inevitable result is a financial crash. Such a crash almost inescapably brings in its train an industrial setback. One may grant that speculation perhaps serves the investor in the manner suggested above and yet question seriously whether any contribution to increased production thereby brought about is not more than offset by the industrial results of the increased financial instability. Students have only begun to explore the problems of liquidity and are by no means prepared to pass final judgment on its effects.

The Securities Act and the Securities Exchange Act

The conclusions drawn above, it will be noted, are almost wholly adverse to the assertions of economic usefulness put forward in behalf of security speculation. Such extreme conclusions are probably not accepted by the majority of businessmen or by many students, though it perhaps is safe to say that, in view of knowledge gained during the years since the first World

War, informed opinion is more critical than it used to be. Even those who hold that such speculation performs important services to industry recognize the seriousness of the abuses that attend it and the desirability of correcting them. Even those who regard it as almost wholly injurious, or at best neutral, agree that it is probably impossible to get rid of it under any system of free private corporate enterprise, and therefore favor intelligent efforts at reform of its worst abuses. The experiences of the years of boom and depression finally led to the passage of the Securities Act of 1933, governing the issuing of securities, and the Securities Exchange Act of 1934, which for the first time provided public regulation of the security exchanges, and machinery whereby it was hoped to prevent or limit some of the most plainly injurious speculative practices.

These measures are based on the idea that the public market for securities can function successfully in the public interest only on the basis of adequate public knowledge of corporate finances and exchange trading. Discussing the investigation of short selling that preceded legislation, the Twentieth Century Fund report says:[11]

"It was soon discovered, however, that beneath the surface of exchange trading much more powerful forces than mere short selling were at work. Banks and corporation officials were drawn into the picture. As the story unfolded it became increasingly evident that these directing "insiders" were thriving upon a body of facts quite different from those offered for public consumption."

The Securities Exchange Act accepts the security markets as a public necessity and tries to insure the efficient performance of their public functions: setting market prices which correspond to investment values; making it possible at all times to sell or buy securities at such prices, and thus directing the flow of savings into those fields where they will be socially most productive. To this end the act seeks to improve existing practice in four important fields: (1) the use of credit in security trading; (2) the actual operation of trading machinery; (3) the publicity of corporate information; and (4) the quality of over-the-counter dealings.[12]

The act puts into the hands of the Board of Governors of the Federal Reserve System the power to determine, under carefully defined standards, the amount of credit that brokers may extend to their customers. That is to say, the board now has the power to raise and lower margin requirements, which in 1945 were raised to 100 per cent. Together with its power to limit

[11] *The Security Markets*, p. 701.

[12] In this paragraph and in what follows we have made free use of the admirable analysis found in Chapter 18 of *The Security Markets*.

the loans for such purposes of all banks which are members of the Federal Reserve System, and a prohibition of borrowing by brokers from other than member banks, this legislation is designed to give the board effective control over the use of credit for speculation and thus to help prevent the development of wild bull markets such as that which led up to the crash of October, 1929.

The administration of the act as regards its other three purposes was entrusted to the Securities and Exchange Commission, which is likewise responsible for the administration of the Securities Act of 1933. The commission, a body of five men appointed by the President, is given broad powers to make rules, and to require the exchanges to make rules, governing exchange operations. Except in accordance with rules set up by the commission it is made unlawful for anyone to carry on operations "for the purpose of pegging, fixing or stabilizing the price" of any registered security, to make a short sale, or to employ "any manipulative or deceptive device or contrivance in contravention" of the commission's rules. All persons are forbidden to effect "fictitious transactions" or transactions "creating a false or misleading appearance of active trading in any registered security."

Under the two acts the commission exercises extraordinarily broad powers to require publicity of corporate affairs and of stock-exchange transactions. Both through an elaborate registration statement, which must be filed before an issue of securities, and through periodical public reports, the commission now requires corporations to make public exhaustive information about their business and finances, so that trading in their securities may take place in the light of full public knowledge. Every director or owner of as much as 10 per cent of any issue of the stock of a corporation must make monthly reports of his dealings in such stock. By such publicity it is hoped both to protect investors against improper operations by insiders and to make it possible for investment to be carried on more and more on the basis of actual information, thus causing market values the better to approximate "true" values. In order to prevent the regulation of the exchanges from causing unscrupulous corporate officials to delist their securities and make arrangements for selling bad stocks "over the counter," the commission is likewise given broad powers over such markets. Thus with the passage of the Securities Act and the Securities Exchange Act came the establishment of machinery for a vigorous regulation both of security issue and of security trading. During the decade which followed, many of the older abuses were curbed, and it seems safe to say that we shall never return to the days when speculation was looked on as a purely private money-making game, to be carried on at the will of the players without any government control in the public interest.

PART FOUR

MONETARY AND BANKING MECHANISM

CHAPTER EIGHTEEN

Modern Money

THROUGHOUT the discussion of the process of price-making it will be observed that we have ignored any possible influence of money itself, keeping it in the realm of "other things being equal." It cannot, however, be kept there permanently, and it is now time to turn to the second element included in any price equation. If at one time $1 equals one bushel of wheat and at another time $1 equals two bushels of wheat, our question is not only the relatively simple one What has happened to the demand for or the supply of wheat? but also Has anything happened to the money in which we stated the value of wheat? Before we are ready to attempt an answer to the second question, we must examine the nature and the use of that elusive something which we call money.

Money is a means of exchanging other goods. All other goods which consumers strive for have a utility of their own. Money has none. Its utility is solely as a means of getting something else. A cream puff, a tennis racket, a suit of clothes, a lawn-mower, a bushel of corn, each serves in itself to gratify somebody's want. Consumption goods gratify wants directly. Production goods—a steel billet, a shoe factory with the machinery in it—gratify them indirectly, by helping the physical process of bringing consumption goods into existence. Money performs no such physical function. We cannot eat it or drink it or wear it. We cannot live in it or take a joy ride in it. It is not even amusing to look at. It is not the material of which we make anything we want. It does not serve physically, like a machine, to help fashion anything we want, or, like power, to drive a machine. It is the one thing which no sane person wants for itself alone. A man living in solitude would not be burdened with it, though he might be eager to have all kinds of consumption and production goods.

The Functions of Money

Money, with no utility of its own, would offer no satisfaction whatever to an isolated individual, but in a developed economic society like ours it is the one thing that everybody wants and that everybody is willing to take in exchange for his goods. We live not by individually producing what we want

but by exchanging our services for what we want. Money is the accepted means of such exchange. Hence the happy possessor of that universally desired and utterly useless article can practically always exchange it for whatever real things he desires, up to the limit of what his money is worth. Money, then, may be defined as whatever is generally accepted as a means of exchange for goods or in payment of debts.

The fundamental function of money is thus to serve as a medium of exchange. Out of this use grows its second function. It serves as a standard—or, better, a measure—of value. A manufacturer offers to sell a thousand pairs of shoes. What are they worth? Say four thousand bushels of wheat, or a hundred suits of clothes of a certain kind, or a year's labor of a college professor, or a quarter of an aeroplane, and so on through the infinite variety of goods for which they might conceivably be exchanged. A society like our own has become possible only because we have developed a common denominator for the values of this endless list of goods. So our shoe manufacturer sells his shoes for four thousand dollars, and if he wants a suit of clothes, uses forty of these dollars to buy it. He buys and sells in dollars, borrows and lends in dollars, thinks and plans and decides in dollars. So we all do, and so we must do. Along with its use as the actual medium of trade is this second, closely related, service performed by money. In a society whose members live by an inconceivably complex system of exchange, we must have some common unit of measure of the value of every man's material goods and personal services. Such a measure Americans find in the dollar, Englishmen in the pound sterling, Frenchmen in the franc, Russians in the ruble. Such a measure enables us to translate the value of everything into the simple uniform dollar expression. It is this we suggest when we say that money is the standard of value. By standard we really mean measure.

In daily life money is constantly used for both purposes. Indeed, the two functions are so closely linked that frequently no distinction is made between them. Absolutely every business transaction is in terms of dollars. We buy goods with dollars and sell our labor for dollars. We make contracts in dollars. We rent a house and agree to pay in dollars. A corporation borrows today by selling a bond which obligates it to pay a thousand dollars fifty years hence. At that time a dollar may be worth twice as much, or only half as much, as it is worth today. It makes no difference. Whatever they are worth, it is a thousand dollars that the corporation has agreed to pay.

It is commonly said that the third important function of money is to serve as the standard of deferred payments, as in the example just cited. This use grows out of its use as the measure of value. In fact, it is in general really a

subsidiary branch of that use. If we think in terms of dollars and carry on business in those terms, we naturally and unreflectingly agree to make future payments in dollars, whether the time of payment be one week or fifty years hence. If money is worth either more or less when the time for payment comes than when the bargain was made, great practical inconvenience and injustice arise, which we shall have occasion to examine later. Here we simply note that money serves as the mechanism of deferred payments because it serves as the measure of value.

Because it serves these uses it can answer still another purpose, one which the economists call providing a "liquid store of value." All that is meant by this unfamiliar phrase is that a sum of money will always be exchangeable for other things. One in doubt about the future, either immediate or remote, and hesitant to buy goods, may prefer to retain his purchasing power for the time. To do this he retains eontrol of a sum of money which at any moment he may exchange for goods. That is essentially what is here implied by the word "liquid." The beginning of this chapter emphasized, indeed perhaps it overemphasized, the fact that no one wanted money for itself alone but only in order to exchange it for goods or to pay off obligations already created. We here qualify that assertion, for there are occasions in which it is desirable for businesses or individuals to have at command resources which are completely free, which may be used to meet any contingency and may be used without the slightest delay. Money best meets such needs. The greater the uncertainty of the situation the more important is the possession of liquid resources and the greater the effort men will make tc secure such resources. The economist says that in such circumstances "liquidity preference" is strong, meaning thereby that money for the time will be preferred to other possessions.

It must not be forgotten that money in the total of all its functions exists to facilitate the exchange of goods. In saying that the fundamental use of money today is as a standard of value, as is frequently done, there is no intention of separating this use from the exchange use. A satisfactory measure of value is as necessary to facilitate trade as is a satisfactory medium of exchange. A money system is a good system just so far as it accomplishes this single end. There has been much talk of "sound" money, as though money were somehow an end in itself; and between the two World Wars certain countries, in order to maintain a supposedly "sound" currency, went so far as to impose extraordinary restrictions on trade, thus defeating the very end for which money exists. To protect our monetary system at the sacrifice of the creation of income, as such restrictions do, is to display a complete misunderstanding of the functions of money in our economy.

The Money Unit

If money today is fundamentally a measure of value, then, since the dollar is our money unit, the first question about the American money system is What is a dollar? It is not a piece of paper or a big silver coin or two smaller ones or, despite certain legislation on the statute books, $15\frac{5}{21}$ grains of gold nine-tenths fine. It is a unit or sum of value (changing from time to time) used as a measure for comparing the values of all other things. Every business transaction has dollars at one end of it. The dollar bill that you have in your pocket is materially just a piece of paper with certain printing on it. An examination of the money in your purse will reveal, probably to your own surprise, that the pieces of green paper which are called dollars seem to differ not alone in the number of dollars engraved upon them but in character as well. Almost certainly you will find one labeled "Silver Certificate," on which you will read, "This certifies that there is on deposit in the Treasury of the United States of America one dollar in silver payable to the bearer on demand." Though you are the "bearer," it has never occurred to you to present your claim to the silver that seems here to be promised. Why should you when this same piece of paper adds, "This certificate is legal tender for all debts public and private," and in practice you have found that it has always been acceptable in exchange for goods or for debts? In fact, the statement that it is legal tender means that it must, under the law, always be accepted when it is proffered for goods or in payment of debts. Observe that nowhere does it say that it *is* a dollar. It seems to give you a claim to a dollar, not to assure you that you now hold a dollar. You may also possess a United States note reading, "The United States of America will pay to the bearer on demand five dollars." This too is legal tender at its face value and also seems to be a promise to pay dollars. These notes are commonly called greenbacks, though the name has lost all significance now that all our paper money is "greenbacked." There may also be among your bills a Federal reserve note, with the legends "The United States of America will pay the bearer on demand ten dollars" and "This note is legal tender for all debts, public and private, and is redeemable in lawful money at the United States Treasury, or at any Federal reserve bank." All three of these pieces of paper are legal tender; all three seem to be promises to pay dollars. Since promises to pay constitute debts, we seem, at least thus far in our examination, justified in concluding that what we pass from hand to hand as money are really debts of the Federal government.

Though there are other varieties of dollars besides the three examined, they are much less common. To know what they are, and in what amounts each

is in circulation, we may look at monthly statements in the *Federal Reserve Bulletins.* The following table gives the figures for January 31, 1946:

Table XV · Money in Circulation, January 31, 1946[1]

KIND OF MONEY	AMOUNT
Gold certificates	$51,000,000
Federal reserve notes	23,867,000,000
Standard silver dollars	136,000,000
Silver certificates and Treasury notes of 1890	1,828,000,000
Subsidiary silver coin	819,000,000
Minor coin	306,000,000
United States notes	307,000,000
Federal reserve bank notes	487,000,000
National bank notes	117,000,000
	$27,918,000,000

This report also includes $20,156,000,000 in gold and $1,772,000,000 in silver bullion, but since these amounts do not circulate we are not at the moment interested in them. Gold certificates, $18,034,000,000 of which were reported at this date, also are not in general circulation, but are held by the Federal reserve banks for a purpose which we shall examine later. This explains why, of our 18 billion, only 51 million appear in a table of circulating money. The Treasury notes of 1890, an insignificant part of our present money supply, are a remnant of notes issued by the Treasury between 1890 and 1893 in exchange for silver and authorized by the Sherman Silver Purchase Act of 1890. When any of these make their appearance at a bank they are at once sent to the Treasury for redemption and are not reissued. United States notes (greenbacks) were created as paper promises during the Civil War. From 1879 until the monetary changes of 1933 they could be exchanged for gold on demand. The subsidiary silver and minor coins are minted for purposes of convenience and call for no special comment. The national bank notes, authorized by the Congress in 1863, were bank promises to pay, issued by national banks. That there should be no doubt that the issuing bank would, on request, meet its promise to pay to the bearer an equivalent amount of some other form of money in place of its own notes, the issuing bank owned United States bonds which, if the bank failed, were to be sold by the Treasury and the proceeds applied to redeeming the bank's promises (the national bank notes of this particular bank). The Federal reserve bank notes, created by the Federal Reserve Act of 1913, were secured in the same way. These two forms of circulating currency are now part of our monetary past, as they are both being retired from circulation as rapidly as they come to the banks. The all-important Federal reserve notes are, as we have already observed, promises to pay to the bearer a sum of dollars. These also were authorized by the

[1] *Federal Reserve Bulletin*, March, 1946, p. 301.

act of 1913, which made sure that the Federal reserve bank which issued the notes should keep its promise to redeem them by a provision that the issuing bank must hold 40 per cent of the amount of the notes in gold (now in gold certificates) and 60 per cent in commercial paper, to be discussed later.

In this description of the kinds of money in use, reference is made to an earlier period when one form of money could be exchanged for another—gold. When a country is on the gold standard, as the United States was legally from 1900 to 1933, the unit of money is defined by law as so many grains of gold. Dollars of paper or silver have the same value as the gold or standard dollar, and one can be exchanged for the other at any time. Our dollar was defined as 25.8 grains of gold nine-tenths fine—that is, with one tenth of alloy in the gold—until 1934, when the weight of a gold dollar was reduced. All gold had been sequestered in the United States Treasury in the preceding year, and the exchange of gold dollars for other dollars was no longer possible. Thus we no longer had a standard money in the old sense. The ghost of the gold standard which still haunts our monetary system will be discussed in a later chapter.

To summarize to this point, we have discovered that the greater portion of what we call money consists of promises to pay (debts). Some of these paper promises come directly from the government, others come by way of the banks; but all are promises to pay dollars, all are debts. By way of assurance that these debts can be paid, the Treasury holds gold and silver, and the banks hold gold certificates, United States bonds, or other assets not yet described. Knowing this, or rather not knowing it at all, we pass these government and bank debts from hand to hand in exchange for hats and books and chairs and railroad fares and gas and theater tickets, with never a thought that we are receiving and passing debts.

Banks and Bank Money

But we do not always, indeed we do not usually, pass one of these enumerated forms of money, which we shall from now on call currency or cash.[2] The householder, on the second of the month, prepares to pay the monthly bills accumulated on his desk. He does not put into each envelope currency of any sort, but instead writes checks for the respective amounts, and these checks his creditors accept. The checks are not considered mere promises to pay but are accepted as actual payment by the recipients, who send them off to the bank

[2]We are not oblivious of the fact that the word "cash" is sometimes used to cover both currency and bank deposits, and currency is called pocketbook money. There need be no confusion if the student remembers that in this volume it is given a narrower meaning.

and think no more about them. Really they are orders from the debtor to his bank, directing it to pay to his creditors the indicated amounts. He can with confidence order his bank to do this because he "has a deposit" in the bank, which amounts to saying that the bank has agreed to do this service for him up to some specified amount. Thus we are still using promises or debts as money, this time bank deposits represented by checks. The chances are that the creditors who receive the checks send them to their banks "for deposit," thus adding to their own power to write checks. Under ordinary conditions a check for ten dollars is just as willingly taken (by one who knows its maker) as a ten-dollar bill, and goods are just as readily exchanged for it. Dollars in the form of checks are just as good as dollars in the form of currency, and the value of cash dollars is just the same as that of check dollars. Clearly, then, checks—or, better, the bank deposits represented by checks—must be counted as part of our stock of money, and at this point the student must enlarge the meaning of the familiar term to include this very important element in our money system. The word "money" will be used hereafter to include currency and bank deposits. Actually, in this country, bank deposits are arithmetically ten times as important as currency, since by value more than 90 per cent of all transactions are settled by check. We cannot, therefore, go further in any intelligent examination of the value of money and its place in price-making until we gain some understanding of what banks are, what they do, and how they augment our supply of money.

When an economist uses the word "bank" without qualification, he is commonly referring to the commercial bank, the usual profit-making institution (most often in the form of a corporation) whose business it is (or has been in the past) primarily to make short-term loans to businessmen. Recently, in this country at least, such banks have engaged more and more in buying and selling credit instruments that do not arise out of the everydav short-time business operations, and full discussion of their functions must bear this fact in mind. Other business concerns deal in goods; commercial banks deal in credit. Their business is simply buying and selling credit instruments, just as the grocer's is buying and selling sugar and potatoes. From another point of view their business is manufacturing and selling credit, just as Henry Ford's business is manufacturing and selling automobiles. Like the grocer and Henry Ford, the commercial banker runs his business "to make money," that is, to make profits.

Banks that perform primarily this function fall into four principal groups: national banks, state banks, private banks, and trust companies. National banks are corporations chartered by the Federal government under the National Banking Act passed in 1863 and amended from time to time. They are

subject to all the provisions of that act and to the regulations of the Comptroller of the Currency, whose office was established by the act for the purpose of exercising supervision over those banks. State banks are corporations chartered by the states under their banking laws. There are forty-eight separate bodies of state banking law, with considerable diversity in the requirements imposed on the banks. Both national and state banks resemble the usual business corporations in being required to act within the powers conferred by their charters. They differ from such corporations legally in being subject to the banking laws of the Federal or state government rather than to the general corporation laws. Private banks are either individual or partnership enterprises that carry on a banking business without incorporation. While their number is relatively small, some of the most important banking houses in the country have been of this type. J. P. Morgan and Company was for long the outstanding example. Private banks, while they must obey the banking laws of the states in which they operate, are free from the detailed oversight, inspection, and publicity enforced on the chartered banks. Consequently they enjoy a greater freedom of action than their incorporated competitors, and they have to rely on their own reputation as an offset to whatever assurance of safety and competence of administration is afforded by the additional regulation imposed on the latter institutions.

A fourth group of banks, separate in origin but now almost indistinguishable in function, must be mentioned here. Trust companies, which had no considerable development in this country until well after the Civil War, were established originally to take care of trust funds, whether the property of individuals or of institutions. As such their work more closely resembled that of savings banks in their investment function than that of commercial banks. Gradually, however, they began doing ordinary banking business, and the commercial banks, in turn, invaded the trust field, the law accommodating itself in both directions. The substantial result is that in most jurisdictions the distinction between banks and trust companies has worn pretty thin. Some of the most important commercial banks in New York today are operating under trust-company charters. It is the distinction of function, not of name, that is important. By this test a great proportion of trust companies are essentially banks. More exactly speaking, a great proportion of their activities are banking activities. The actual situation is reflected in the frequency with which the corporate name takes the form of "—— Bank and Trust Company."

The task of making short-term loans to business undertakings and carrying on the wide variety of activities growing out of this task thus is performed in this country chiefly by a group of profit-making business enterprises some

fifteen thousand in number at the present time. Some of them are partnerships; most of them, however, are corporations, chartered either by the states or by the Federal government. The following table sets forth the facts according to the Report of the Comptroller of the Currency for December 30, 1944:

Table XVI · Commercial Banks of the United States[3]

	NUMBER	DEMAND DEPOSITS (IN THOUSANDS)	LOANS AND DISCOUNTS (IN THOUSANDS)
Private banks	42	$185,988	$53,667
State banks and trust companies	8,933	44,689,564	10,114,559
National banks	5,025	58,918,523	11,479,900
	14,000	$103,794,075	$21,648,126

The ten largest banks in the country on December 31, 1941, with their deposits, are shown in Table XVII.

Table XVII · Largest Banks of the United States, 1942[4]

BANK	DEPOSITS (IN MILLIONS OF DOLLARS)
Chase National Bank, New York	3534
National City, New York	2878
Guaranty Trust, New York	2259
Bank of America, San Francisco	1908
Continental Illinois, Chicago	1616
Bankers Trust, New York	1375
Central Hanover, New York	1326
First National, Chicago	1298
Chemical, New York	1014
Manufacturers Trust, New York	984

In 1945 a single bank, the Chase National Bank of New York, held more than one twentieth of all the bank deposits of the country. The big ten controlled nearly one quarter of the total. The figures suggest the striking differences between the handful of financial giants and the great body of middle-sized and small-sized banks which among them meet the need of American business enterprises for short-time accommodation. All of them share, in greater or less degree, in performing that function. In doing so each makes whatever profit it can.

[3]Annual Report, Comptroller of the Currency, year ending December 31, 1944, pp. 121, 123, 136–137, 139, 148–149. The figures are for the United States, exclusive of possessions.

[4]*Deposit Liabilities of One Hundred and Fifty of the Largest . . . Banks*, compiled by California Bank, Los Angeles, January, 1942. We give here only the commercial banks. It will be noted that six of these banks appeared among the thirty largest corporations in 1935.

The reader will not have failed to notice that our description thus far has made no mention of the twelve Federal reserve banks that join some six thousand separate banking units together into a system. Two fifths of the commercial banks, controlling more than four fifths of the deposits, belong to this system. Not only must all national banks join it but the eighteen hundred state banks that have entered are the large and powerful ones, as the figures for average deposits in Table XVIII clearly show. The seven thousand that have remained outside are in general the small banks which, however important they may be in their own communities, carry relatively little weight in the larger banking situation. While it would manifestly be untrue to assert that the member banks of the Federal Reserve System constitute the commercial banks of the United States, yet for most purposes we shall not go far astray if we think of them in that light. It is not intended by this statement to slight the desirability of bringing into the Federal Reserve System the remaining commercial banks. The very fact that they are for the most part the smaller state banks would make membership in a strong system all the more useful to them.

Table XVIII · Number and Deposits of All Banks in the United States, December 30, 1945[5]

	NUMBER	DEMAND DEPOSITS (IN MILLIONS)	AVERAGE DEPOSITS (IN MILLIONS)
All banks	14,011	$105,920	7.5
Member banks	6,884	91,820	13.0
National banks	5,017	59,486	11.9
State banks	1,867	32,334	17.0
Nonmember banks	7,127	14,100	1.9

The necessity for a central banking institution (the Federal reserve banks), the way in which it came into being, and the manner in which it now operates can be understood only after the work of the ordinary commercial bank has been made clear. To that we now turn.

The Work of a Bank: Bank Deposits

A bank, which creates and sells credit, adds bank deposits to our stock of money. What are they, and how do they come into existence? The naïve everyday concept of a bank deposit is a sum of actual currency placed in the bank and left there for safekeeping. Such a concept, whatever its historical justification, is completely wrong in every particular. A bank deposit is not cash. It is almost never created, except in a trifling fraction, by the bringing

[5] *Federal Reserve Bulletin*, April, 1946, p. 402.

into the bank of cash. It is not generally utilized for the purpose of getting or having cash. It is, in fact, a credit on the books of the bank, a right to draw cash on demand. It is not something which the bank has, but something which the bank owes.

Bank deposits arise from three sources. In the first place, just before a bank closes each day local businessmen bring in the comparatively small sums of currency which they have received in the course of the day's business and deposit them for safekeeping, taking in return a deposit credit, or claim against the bank. The total amounts to only an insignificant fraction of the day's deposits. The other two sources of deposits are the important ones. First come the checks, drafts, and paper claims of all kinds that are deposited for credit. These are not currency and do not bring in currency. For the most part the claims they represent are settled by entries on the books of the two banks concerned. Though the claims are rights to obtain currency, in fact the right is almost never exercised. Chiefly important, however, are the deposits created by the bank's own action in lending to its depositors, usually businessmen. Such loans have been until recent years the great source of bank deposits. A bank thus builds up its deposits by building up its loans. We shall shortly examine a typical transaction and see exactly how the loan creates a deposit; for the moment the relationship is asserted without explanation. The bank's deposit liability—that is to say, its obligation to meet in cash at any time every demand of every depositor for cash up to the full amount of his deposit—is the price it pays for the opportunity to make loans, which are the source of its profits. In order to get any understanding of banking realities, it is essential to bear in mind both the actual nature of deposits and the relation of loans to deposits. A deposit is, from the point of view of the depositor, a right to get cash on demand. From the point of view of the bank it is simply an obligation to pay cash on demand. Loans create deposits. Legally a deposit is an obligation to pay out cash to the owner of the deposit; practically it is an obligation which the bank is seldom called upon to meet, although it must always stand ready to meet it.

Thus far our discussion of deposits has concerned itself entirely with demand, not time, deposits. Time deposits, like savings deposits, are not legally withdrawable on demand, but only a certain length of time (commonly thirty days) after notice. From the point of view of the bank they differ sharply from demand deposits, because they do not constitute a demand liability and time is the essence of banking. From the depositor's standpoint they occupy an intermediate position between savings and demand deposits. They draw a low rate of interest, yet are not tied up in a permanent investment, which is the destiny of savings-bank funds.

The Discount Function

The discount, or loan, function of the bank is so closely connected with the deposit function that the attempt to treat the two separately is highly artificial and can be justified only if it makes for better understanding. As we have said, the bank builds up its deposits, as well as makes its profits, by means of loans. To its shareholders bank loans are important sources of profits; to the businessmen of the community its loans provide the temporary financial accommodation needed to keep the productive processes functioning smoothly; to the student of economics loans are significant because of their relation to the money supply and therefore, as we shall see later, to the whole price system. The usual method of bank lending is by the discount of commercial paper. A manufacturer has sold to a wholesaler on sixty days' time a bill of goods amounting to $10,000, taking in payment the wholesaler's note for that amount bearing no interest. If he should hold the note until its due date, he then could collect the $10,000, but he wishes to collect immediately in order to use the payment in further productive operations. He therefore takes the note to his bank for discount. First he endorses it by writing his name across the back, thereby making himself responsible for payment in case the maker should default. The bank probably does not know the wholesaler, but does know the manufacturer and knows that he is good for $10,000 at need. It is therefore willing to lend him that amount for the two months until the obligation falls due. Accordingly, it discounts the note. That is to say, it takes the document and immediately credits the manufacturer with $10,000 minus the interest on that amount for the sixty days the note has to run. Suppose that it is discounting this kind of obligation at the rate of 6 per cent (per annum). The interest for sixty days, one sixth of a year, is 1 per cent. One per cent of $10,000 is $100; $10,000 − $100 = $9900. The manufacturer therefore receives on the books of the bank a deposit credit of $9900, which he may draw out in currency immediately if he wishes or may pay out by check at his convenience. In other words, he has got $9900 for immediate use in any form he chooses, in return for a claim to $10,000 due in sixty days. In still other terms, the bank has bought from him for $9900 a note which if held to maturity will bring it $10,000, thus yielding the bank a profit of $100. Put still differently, the bank has lent him $9900 for sixty days, at the expiration of which period it will collect $10,000 from the maker of the note, receiving as its profit the $100 interest (discount) it deducted in advance.[6]

[6]It will be noted that the rate of interest the manufacturer paid on what he actually received was fractionally above the 6 per cent that the bank nominally charged, because the 6 per cent was calculated not on the $9900 that he received but on the $10,000 that the bank was to receive two months later

It is in this last statement that we see the meaning of the transaction. The bank has lent the manufacturer $9900, and the note is the evidence of the loan. If we assume that the seller of the goods needed money and that the buyer was not in position to pay until he in turn should have sold the goods, then it is the bank loan that made the sale of goods possible. No credit, no exchange. In discounting the note the bank made a loan, which is the essence of its work. In this simple transaction we come immediately to the thing that makes a bank a bank, and not a savings institution or a security-seller. A bank manufactures and sells credit—that is to say, money in our definition of the term.

Discount is historically the most common, though by no means the only, form of bank lending. Businessmen are forever in need of immediate credit and consequently are constantly offering commercial paper, as it is called, for discount. Such paper includes not only promissory notes, like the one above described, but all kinds of instruments calling for payments in the future. A second well-known class consists of drafts. Notes are promises to pay; drafts are orders, directing someone else to pay; a third form, an acceptance, combines an order with a promise. Suppose that the wholesaler of the example above had agreed to make payment by a sixty-day draft. The manufacturer then, in the simplest example, would make out a draft, which is simply an order to the wholesaler to pay $10,000 after sixty days to a specified person, or more probably to a bank. The wholesaler might write "Accepted" with his signature across the face of the draft, thus agreeing to pay it. After this action, the draft becomes known as an acceptance. The manufacturer is known as the drawer, the wholesaler as the drawee, the specified institution as the payee. The paper described is a trade acceptance; had a bank been the acceptor, it would have been called a bank acceptance. Armed with the trade acceptance, the drawer now goes to his bank, where the lending and paying process follows essentially the same course as with the note of the preceding example. With trifling variations of detail, the story is the same with all classes of short-term commercial paper. A bank is glad to buy such paper, if presented by reliable customers, for two reasons. First, the purchase ties up funds for a comparatively short period, during which conditions can be more or less foreseen. Secondly, the investment is a self-liquidating one; that is to say, at the due date the loan is paid off out of the proceeds of the transaction it made possible. Notes, drafts, and acceptances in their many varieties are the leading types of paper on which such loans are made, and the quick assets of a sound bank in the past have consisted largely of such paper. The traditional concept of a bank is that it exists essentially to buy and sell such obligations.

Collateral Loans

Collateral loans must be looked at somewhat differently from loans on commercial paper. They are likely to arise in lesser measure out of the immediate processes of productive industry, and they are not self-liquidating, as are the former type. A speculator, already owning securities, wishes to buy more against an anticipated rise. He goes to his bank and borrows, depositing his securities as collateral for the loan and buying added securities with the proceeds. This loan, it will be observed, has not aided industrial production in any way. It has simply enabled a speculator to buy more securities at once in order to make money by a hoped-for rise in price. If the rise takes place, he may sell the new-bought securities, pay back the loan, and pocket the difference, at the same time recovering the securities he put up as collateral. If prices fall, on the other hand, and he decides to sell out and take his loss, he pays off his loan with the proceeds of his sale as far as they go, puts up the rest out of his own pocket, and then retrieves his pledged securities from the bank. If he fails to repay his loan at the agreed time, the bank may sell the securities pledged as collateral and thus reimburse itself. In any event, however, the bank's loan is not automatically liquidated at an appointed time by the falling due of claims owed to the borrower, as is true of bank loans made on commercial paper. The reimbursement of the bank depends on a security sale, either of the securities pledged as collateral or of those for whose purchase the loan was made. In both kinds of loans deposits were created—that is, the money supply was affected—but the influence on production differed markedly.

Loans to Governments and Long-Term Loans

Banks do not lend simply on commercial paper and on collateral security, however. During the depression years in this country the banks generally found a great shortage of demands for such loans. Businessmen did not want to borrow. The banks, therefore, had to find other uses for the funds that they had in great abundance, and consequently they snapped up eagerly the short-term securities which the government issued in the process of financing its depression expenditures and later the staggering outlays of the second World War. Commercial bank holdings of government obligations, long-term as well as short, in March, 1946, were 90.6 billion dollars; the Federal reserve banks at the same time held 22.9 billion. The buying of newly issued securities—that is, the process of lending to the government instead of to business—now constitutes a highly important part of banking practice, though its significance has been little discussed by writers on banking. The Chase National

Bank, for example, on December 31, 1945, had $3,078,102,718 invested in United States government securities, with loans, discounts, and bankers' acceptances of only $1,271,694,229. The important change in banking indicated by such figures as these, from the days when the holdings of the banks consisted overwhelmingly of commercial paper, cannot be overlooked. It means that American banks in future are bound to be more concerned than formerly with the exigencies of government finance, and less exclusively preoccupied with the demand of private business. A realistic view of today's commercial banking in the United States must take account of the banker's relation to government debt, as well as to short-term business debt. Government loans as well as business loans create deposits, the differences being that the deposit belongs to and is spent by the government rather than by private business and that even short-term government obligations are likely to have a longer maturity than the ordinary run of commercial paper.

A word should be said of other long-term loans or investments of banks, though they have no close connection with the bank's creation of money. Since their business is to deal in short-term credit, conservative bankers try not to tie up their funds unduly in mortgages and bonds. Loans maturing only over a period of years have not been regarded as appropriate for any considerable part of the funds of a commercial bank. Even the most careful banker, however, at times finds himself in a situation where certain loans on real estate seem warranted, or where loans on securities result in the taking over of the collateral, especially in times of falling prices when borrowers cannot meet their loans. Abuses incident to a confusion of the functions of commercial and investment banks were responsible for the legislation of 1933 and 1935 requiring the complete separation of the two types of institutions. It was an attempt to confine the commercial banks to their short-term loan function.

The Issue Function

The third function of banks in the traditional conception is issue, that is, the issuing of bank notes that serve as currency. This function is hard for the present-day American to understand, because issue in this country has been hedged about with such a multitude of restrictions as to lose much of its old significance. Indeed, our latest legislation has taken the power of issue entirely away from the commercial banks and lodged it wholly with the Federal reserve banks. We therefore shall touch the issue function briefly at this point, simply in order to make clear the way in which we have come to our present arrangements. Under a system of unregulated banking, banks exercised the

right to issue their own notes (simple promises to pay), which circulated as money among all who were willing to receive them. If a man wanted a loan, the bank gave it to him not in the form of a deposit credit but in the form of its own notes, which he thereupon put into circulation by paying his bills with them. Most early American banks were chiefly issuers of notes. It will be observed that to a bank its notes were really the same thing as its deposit credits, only in a different form. Just as a bank has to be prepared to redeem its deposits in cash on demand, in exactly the same way it had to be prepared to redeem its notes in cash on demand. As long as its credit was good its notes might and did pass from hand to hand freely, serving all the purposes of money. In order to keep them thus circulating, however, the bank had to demonstrate its willingness and ability to redeem them on demand in lawful money. From the banking point of view notes and deposits are only two different forms in which customers take the proceeds of the loans the bank has made them.

Summary

The work of the present-day American bank, therefore, must be thought of as consisting in the provision of short-term credit to business and government, chiefly through the discount of commercial paper, the making of collateral loans, and the purchase of securities. Prevailingly such credit takes the form of deposits, which as checks have become our principal medium of exchange. It serves to facilitate the operations of the more active members of the business community by putting additional funds at their disposal with which to carry out their purposes, be they industrial or primarily financial in character. Loans made to government rather than to private agencies aid in the carrying on of government activities, particularly by helping to adjust irregularities of income and outgo and by making temporary provision in advance for long-term financing. But as a dynamic force we must think of our banks as effectuating the purposes of the businessmen who borrow from them.

The Bank Statement

At this point we may add to our comprehension of the work of these banks by the inspection of a bank statement, though there are still items in such a statement that will not be entirely clear until we have studied our banking system in its entirety. Since almost all banks are corporations the statement will resemble that of any corporation, and such items as capital and surplus need no explanation. Certain items, however, are obviously peculiar to the banking business.

Statement of Condition as of June 29, 1950

ASSETS		LIABILITIES	
Cash on hand, and due from Federal reserve bank and other banks	$62,293,188.82	Capital	$7,000,000.00
		Surplus	7,000,000.00
		Undivided profits	1,639,466.76
United States government securities	50,080,117.64	Reserve for contingencies, taxes, and expenses	2,314,334.23
State and municipal bonds	3,464,803.68	Dividend payable July 1, 1950	140,000.00
Other bonds and securities	2,041,976.62	Acceptances outstanding	1,699,224.41
		Other liabilities	623,296.90
Stock of the Federal reserve bank	420,000.00	Deposits	127,432,234.32
Loans and discounts	27,692,137.52		
Customers' liability on acceptances	1,601,982.84		
Interests accrued and other assets	254,349.50		
Total	$147,848,556.62	Total	$147,848,556.62

Other bank statements may add such items as "Gold in transit," "Real estate and bank premises," to the assets, but our example serves very well to illustrate the usual form. The items "Due from Federal reserve bank" and "Stock of the Federal reserve bank" will be understood after reading Chapter Nineteen; at this point we shall ignore them. Of the others only one or two need special comment. It has been implied in the preceding account that the business of a commercial bank was, or at least had in the past been, the creation of short-time credit by loans to businessmen, but an inspection of the statement above shows that this bank has invested in government and other securities over 55 million dollars in contrast with some 29 millions in loans and discounts and acceptances. It shows also over 127 million dollars in deposits and but 27 millions in loans and discounts. Obviously the loans have not created any large proportion of the deposits. Even if the bank paid for all its government and other securities and for its acceptances by creating deposits for its debtors, there is still an excess of deposits here, which indicates that this bank has received large cash deposits in addition to those which it has created by various forms of loans. Among the liabilities appears the item "undivided profits," not in use in the balance sheets of industry. The distinction between earned surplus and undivided profits is easily grasped: the former represents earnings which have been reinvested; the latter, earnings held in liquid form among the assets, so that the directors still have the power to use them as they like. It is worth notice also that the cash on hand, with that due from the reserve and other banks, amounts to almost 50 per cent of the deposits. Clearly this bank could be lending much more than it is; how much more we shall be better prepared to say after examining the nature of bank reserves and their relation to deposits.

CHAPTER NINETEEN

The Federal Reserve System

HAVING gained some notion of the principal classes of banking institutions existing in the United States, we are now ready to see how they are joined together in a banking system. Such union has been a matter partly of private business co-operation, partly of government requirements. Over a period of a century we have moved in the direction of progressively greater government control of banking looking toward more unified practices. The greatest single step probably was taken when the Federal reserve banks were created in 1913 to unite commercial banks and enable them to perform their functions safely and adequately.

From the beginning of our history many Americans have been jealous of "the money power" and have preferred small local banking institutions to any great central bank with numerous branches. The first Bank of the United States, chartered by the Congress in 1791 for twenty years, and the second Bank of the United States, chartered for a like term in 1816, both did useful work, but both fell victim to popular hatred of concentrated wealth and fear of its political expression. With the exception of these two, all banks before the Civil War were either private or state-chartered institutions. Existing chiefly for note-issuing purposes, a large proportion of them were financially weak and were unwisely and too often dishonestly managed. They provided an unreliable currency, and in general furnished necessary banking service in unsatisfactory fashion. Of course there were notable exceptions to these sweeping statements. Americans, however, have a hundred-and-fifty-year record of bad banking, and the first half of the record is even worse than the second. During that period we had a chaos of separate banks, largely weak ones. In the years just preceding 1860, however, there were material improvements, brought about both by voluntary bank action and by state legislation.

The National-Bank System

The Civil War brought one notable change. In the midst of that struggle the Federal government, needing to create a market for its bonds and desiring

also to provide a dependable bank-note currency, passed the national-bank law of 1863. Instead of establishing one big bank, as in 1791 and 1816, this law provided for the chartering of banks by the United States, thus setting up a system of so-called national banks in competition with the state-chartered institutions, but adhering to the American tradition of local unit banks. There were certain provisions for safety, including minimum capital requirements, minimum reserve requirements, double liability of stockholders, and requirements for supervision and periodical examination under the office of the Comptroller of the Currency, set up in the Treasury Department for oversight of the national banks.

The outstanding feature of the system was its provision for note issue. Every national bank was required to invest a certain proportion of its capital in government bonds, which were held in the Treasury as the property of the bank and which of course yielded it interest. The bank thereupon was permitted to issue notes up to 90 per cent (later 100 per cent) of the value of the bonds. A prohibitive annual tax of 10 per cent was laid on the notes issued by state banks, thus giving national banks a monopoly of note issue. As has been stated earlier, these notes were secured by United States bonds, and no noteholder of a national bank stood to lose even though the issuing bank closed its doors. A secure bank-note currency thus was substituted for a volume of notes as various and uncertain as the differing managements of the hundreds of note-issuing state banks.

While the national-bank issues were secure, they were not elastic; that is, the volume of notes in circulation did not rise and fall in close relation to the demand for money. Since the banks had to buy government bonds before they could issue notes, the profitableness of note issue depended not so much on the demand for money as on the price of bonds. As government credit rose, and with it the price of bonds, the profits of note issue fell. Thus there was no incentive to increase issues as business demands increased. During the half-century between the Civil War and the first World War both popular and expert opinion, correctly enough, attributed more importance than informed students at the present time attach to the elasticity of the supply of currency. With our present reserve system (to be taken up later) it makes little difference whether the amount of currency fluctuates with changes in the volume of business transactions; before 1913 it was of much greater importance. Since gold and silver provided an elastic element only in minor degree, if at all, and government issue of paper money was anathema, it was felt that bank notes should provide the required elasticity. After fifty years' experience the security of national-bank notes was unquestioned, but their inelasticity was sharply criticized.

Though the national-bank system provided safety for the noteholder, it accomplished less for the depositor. The banking standards upheld by the Comptroller of the Currency were indeed probably higher than those maintained in most of the states, and the competition of the national banks doubtless improved practice in some state-chartered institutions. Nothing was done, however, and at that time probably nothing could be done, to unite into a system the thousands of separate banks, each with its own reserve and each with practically complete responsibility for its own safety. The tradition of small independent banks persisted, and a goodly proportion of bankers, both large and small, continued to be bad bankers. On the upward swing of business prosperity the banks, like other profit-making business undertakings, prospered. Every down turn saw numerous bank failures, and in every serious financial crisis cash payments were suspended. In the words of Professor Sprague, "The fundamental cause [of suspension of cash payments] was the lack in the banking system of any available reserve of cash and lending power. All banks endeavored to employ their entire resources at all times and consequently there were no adequate means for coping with emergencies." The late Professor Kemmerer, in his standard book on the Federal Reserve System, from which our description is largely drawn, set forth the defects of our banking previous to 1913 under four heads: (1) decentralization, (2) inelasticity of credit, (3) cumbersome exchange and transfer system, and (4) defective organization as regards relationship with the Federal Treasury.

The Federal Reserve System

The continuing difficulties and disasters, in part at least attributable to these defects, finally led in 1913 to the creation of the Federal Reserve System. It was established, as improvements often are, in the face of the indifference or active opposition of many of those most directly affected, in this instance the bankers themselves. Brought to the test of war, it quickly demonstrated its immense possibilities of usefulness. The booming years of the twenties and the shattering experiences of the depression, culminating in complete banking collapse early in 1933, taught further practical lessons. New legislation in 1935 embodied important changes in both the theory and the practice of the system. In everything but name we now have a central bank, and its powers are exercised in close harmony with the policies of the Federal government. As time goes on it is to be hoped that all state banks will enter this system.

It should be made clear at the outset that the Federal Reserve Act made no attempt to do away with the large number of independent banks, most of

them small local ones, that have always constituted a distinctive feature of American banking. Many competent authorities maintain that we shall never get a satisfactory banking system until we substitute for them a small number of strong banks with efficient arrangements for branch banking. That is a question which the Federal Reserve System was not devised to answer. In view of the great geographical extent of the country, and the strong prejudice against a central bank, no attempt was made by this act to establish a single central institution or to reduce the number of small independent banks. The entire United States was divided into twelve Federal reserve districts with a Federal reserve bank in each district. As we shall see, however, certain arrangements now exist which unite the twelve Federal reserve banks (hereafter referred to simply as the reserve banks) for essential purposes into what is practically one bank. The national banks of each district were required, and state banks that met prescribed standards were permitted, to join the system by subscribing to the extent of 6 per cent of their capital stock and surplus to the capital stock of the reserve bank of the district. Each Federal reserve bank is thus a banking corporation owned by the member banks of its district. The member banks are for the most part commercial banks and trust companies, though since 1935 the privilege of membership has been extended to mutual savings banks and Morris-plan banks.

Each reserve bank has a board of nine directors. Three (Class A) are elected by the member banks, divided for the purpose on the basis of size into three groups, each choosing one director. Within each group the rule is one bank, one vote. Three (Class B), similarly elected by the member banks, must be men engaged in agricultural, industrial, or commercial pursuits in the district. Three (Class C) are chosen by the Board of Governors of the Federal Reserve System (to be described in the second paragraph following), who must also approve of the president of the bank, elected by the directors for a five-year term. The board of directors is thus designed to represent at once the member banks of the district, its business interests, and the general public. Differently put, "Class A directors represent lenders of funds, Class B directors represent borrowers, and Class C directors represent the interests of the general public."[1]

The very composition of their boards of directors thus suggests that the Federal reserve banks exist for public purposes that transcend the profit-making activities of the banks that own them. Their ownership is private; their purposes are public. They make profits, but they do not exist to make profits as the member banks do. Their profit-making is incidental and is with-

[1]Quoted by E. W. Kemmerer, *The A B C of the Federal Reserve System* (Princeton University Press, 1936), p. 37.

out hesitation subordinated to the public purposes that they serve. Moreover, they are prohibited from distributing more than 6 per cent cumulative dividend to the banks that own them, and any additional profits earned after the accumulation of a surplus equal to capital go to the Federal government. The member banks pursue their own profit-making ends; the reserve banks were created in order that their pursuit of those ends may the better serve the public interest.

At the head of the Federal Reserve System as originally constituted stood the Federal Reserve Board. In 1935 it became the Board of Governors of the Federal Reserve System, a body of seven men appointed for fourteen-year terms by the President of the United States with the approval of the Senate. The earlier powers of the board were widely extended by legislation of 1932, 1933, and 1935, in order to give it effective control over the credit facilities of the country and to insure a uniform policy on the part of the separate reserve banks in respect to matters held to be of great public moment. Without elaborating these powers in detail we may say that they extend to almost every important feature of banking operations, covering not only the reserve banks but in many particulars the member banks as well. The Board of Governors has broad powers of supervision and regulation of all the operations of the reserve banks. It controls their lending policies, notably in respect to discount rates and open-market operations, to be considered later. It exercises wide control over member banks in respect to reserves, loans, and investments, and even has the power to remove the directors and officers of any that persist in unsound practices. It is scarcely too much to say that a definite effort has been made to give it power, working directly and through the reserve banks, to determine the general credit policies of all banks in the system. The weaknesses of decentralized banking have been so conspicuous, and the need for an intelligent unified control of credit facilities in the public interest has become so evident, that the traditional prejudices of the banking and business community have had to give much ground. We have not given up our unit banking system, but we have given it a badly needed central support and control and have now conferred on the Board of Governors of the Federal Reserve System the functions and powers belonging to the directors of a central bank.

The Federal Reserve Act undertook to lessen all the weaknesses enumerated by Professor Kemmerer, but we shall deal chiefly with the plans for giving elasticity to currency and credit, for centralized control of credit under which reserves are mobile and effective, and with the improvement in the method of transfer which has been accomplished within the system. Our banking system is far from perfect, but it is vastly more useful than it was before 1913.

Bank Reserves

Questions relating to the control of deposit money and its elasticity, questions with which we have become increasingly preoccupied since the system was set up, cannot be understood without some discussion of the meaning and functions of bank reserves and some knowledge of conditions before 1913.

Bank reserves, like deposits, differ sharply from the popular conception of them. We are likely to conceive of them as actual cash lying in the vaults of the bank. Whatever truth that conception may have had in the past, reserves today exist chiefly in the form of claims to cash. Banks, like other business concerns, keep on hand what till money (cash in their drawers for daily transactions) they need, and that is about all. Their reserves are in the form of deposits in correspondent banks or in the Federal reserve banks. If they are to constitute the reserves required by law, they must be in the latter. Thus to the banker the idea of reserves is less of cash than of speedy and reliable means of obtaining cash when it is demanded by the depositors (or the noteholders if the bank issues notes).

The banker, we must remember, is a businessman; the business of his bank is to sell credit. Naturally he wants to sell as much as he can, that is, he wants to make as many and as large loans as possible. At the same time he must not lend too freely or he will imperil his business. The desire for profits constantly urges him to extend his loans (and thus to extend his deposits); the necessity for safety, to contract them. The successful banker is the one who manages to maintain rightly the constantly shifting balance between the two forces. His primary responsibility is at all costs to maintain payment in cash to all who have, and who choose to exercise, the right to draw cash on demand from him, that is, all depositors. Because a bank must be prepared to redeem its obligations in cash at demand and because these demands vary from time to time, it is found necessary as a matter of experience to maintain a reserve which, if not in cash, can be quickly transformed into cash.

Such reserves serve a double purpose. They make it possible to meet demands with cash, incidentally aiding, under ordinary circumstances, in maintaining confidence in the banks, so that depositors, knowing that they can obtain cash, will not ask for it. They also become the means whereby the amount of credit extended by the bank is controlled. This implies that they play an important part in the expansion or contraction of our money supply. About this double conception of the function of reserves the law has built an elaborate structure of reserve requirements. The legal reserves of member banks, though they still serve their original purpose by providing a means of protecting the right of the depositor to receive cash on demand,

have become much more important as a means by which the Federal Reserve System controls credit expansion. The setting up of certain required limits which the bankers may not legally transgress is to be considered primarily as a means of accomplishing the second purpose of reserves. As often happens, the original reality has come to be employed for a function very different from that for which in the beginning it was planned. In considering present reserve requirements it is necessary to keep constantly in mind their double purpose: that of making certain that depositors who want cash can have it and that of controlling the expansion of credit.

Reserves in the National Banking System

Under the national banking system the cities of the country were classified according to size, as central reserve cities (New York, Chicago, St. Louis),[2] reserve cities, and other places. There were no reserve *banks*; it was the cities which were classified for reserve purposes. All national banks in central reserve and reserve cities were obliged by law to hold reserves equal to 25 per cent of their deposits; those in other places, reserves of 15 per cent. A country bank, instead of keeping all its legal reserve in its own vaults, might deposit three fifths of its required 15 per cent with a bank in a reserve or central reserve city, and a bank in a reserve city might deposit one half of its required 25 per cent with a bank in a central reserve city. Thus part of the required reserves in the smaller places became deposits in the banks of the larger cities, chiefly New York, and under the arrangements then prevailing drew interest, which was the inducement to deposit them. They served as earning assets to the country banks at the same time that they satisfied the legal reserve requirements.

Idle loanable funds from all over the country accordingly moved to New York banks. From these banks they found their way into the stock market in the form of call loans (loans that must be repaid on demand). If a country bank wanted to withdraw its deposit, the New York bank holding it might have to call in its own loans to stockbrokers in order to get funds to meet the demand. The idle funds, including the legal reserves, of banks everywhere thus were used extensively to finance speculation on the stock exchange. When they were needed by the banks owning them and were withdrawn from the exchange, there followed a period of "tight money" in New York and a weakness or a crash in security prices.

This reserve system had the advantage (to the banks) of drawing the surplus funds of the country to business centers, where borrowers were most numerous and funds could be used most profitably. It had the disadvantage of making

[2]Today New York and Chicago are the central reserve cities.

it difficult for the country banks to call home their reserves, as they regularly did in the crop-moving season, without crippling the activities of borrowers in the larger cities, and subjecting the New York banks to great strain. It had two marked disadvantages to the country as a whole. First, as already suggested, it distinctly encouraged speculation as against productive industry. The latter could not safely borrow on call, and the New York banks could not safely use for long-term loans funds that the depositing banks might call home at any moment. Hence the deposits of the country banks went into the stock market. Secondly, the inflation and deflation of security prices that were thus induced worked distinctly as a disturbing influence in legitimate industry. The orderly service of the banks in financing production was upset and made more expensive. These disadvantages were among the causes leading to the passage of the Federal Reserve Act.

Centralized Control of Reserves

This act changed the reserve system completely. The old classification of cities was indeed continued, but with a new purpose. First, reserve requirements were sharply reduced. Against time deposits all member banks were to carry 3 per cent reserves. Against demand deposits member banks in the country were to hold 7 per cent; in reserve cities, 10 per cent; in central reserve cities, 13 per cent.[3] If a bank allowed its legal reserve to fall below the limit fixed, it had to pay a penalty tax until the proper reserve was restored. One all-important difference was that the act did away entirely with the holding of any part of its legal reserve by a member bank itself, and also with the depositing of any part with other banks that invited such deposits in order to make profits on them. Instead of holding any of its required reserve in its own vaults, a member bank was obliged to carry all of it as a deposit in the reserve bank of its district (not, it should be noted, in another commercial bank, as under the national banking system). Thus the legal reserves of all member banks were concentrated in the twelve Federal reserve banks, whose business it is not to make profits but to manage reserves through the performance of banking functions, with the member banks and the government as their customers. Of course member banks are at liberty to keep as much or as little till money as they please. They are also free, under regulations, to carry deposits in other member banks if they find it desirable. This is a

[3]In 1938 these percentages were doubled, shortly afterward they were reduced, but in the fall of 1941 they were raised again to their legal limit. In 1942 they were made 14, 20, 20. Throughout our illustrations the basic percentages of the act will be used as if they were constant.

wholly different matter, however, from the required reserves of 7, 10, and 13 per cent which must be kept in the reserve banks.

The reserve banks do not hold the reserves of member banks in actual cash in their vaults. No such hoard is necessary. They are required to hold reserves in gold (now gold certificates) or lawful money of 35 per cent against their deposits. These reserves constitute the sole requirements of actual cash to be held anywhere against the whole volume of member-bank deposits, totaling over 15.6 billion dollars in February, 1946; and even these reserves consist chiefly of gold certificates, which the reserve banks may not legally pay out. Plainly we have come a long way from the conception of the reserve of a commercial bank as actual metallic money lying in its own vault, ready to be handed out to depositors on demand. Nevertheless, in our emphasis on the double function of reserves we must not minimize the importance of the older purpose. It is still the reserves which must meet any unusual demands from depositors. No sound bank must be embarrassed by a temporary shortage of cash for such demands. The Federal Reserve Act placed squarely on the twelve reserve banks the responsibility for protecting their member banks from such difficulties, along with their responsibility for placing the lending power of the country where it is most needed at any given time, and for expanding and contracting the lending of the country as business needs vary.

How are these ends accomplished? Under the terms of the law one dollar of reserve-bank *reserves* can support nearly three dollars of deposits, and each dollar of reserve-bank *deposits* (consisting chiefly of the reserves of member banks) can in turn support on an average ten dollars of the deposits of member banks in reserve cities. Therefore it would be possible for these member banks to lend nearly thirty dollars against every dollar required to be held in the reserve-bank reserves because of such loans. Member banks in central reserve cities could lend nearly twenty-two dollars; those in other places, approximately forty dollars.

As our discussion proceeds, the important distinction between reserve-bank and member-bank reserve policy must be kept in mind. Member banks, in order to earn as much as possible, naturally and properly try to keep their ratio of reserves to deposits as near as they safely can to the required legal per cent. If a member bank could have its will, any increase in its reserves (its deposits in a Federal reserve bank) above the legal minimum would always be followed by an increase in its own deposits, brought about by increased loans and discounts. Any excess reserves above the percentage of the deposits required by law means a failure to lend as much as the bank is legally allowed to, and thus a failure to realize all possible profit. Reserve banks, on the other

hand, are not driven by a desire for profits to lend all they can. As a matter of policy they ordinarily carry reserves well above the 35 per cent legally imposed, in order to have an adequate margin of lending power to utilize as may be needed in the public interest. The ratio of gold certificates to Federal reserve notes and deposits for the twelve reserve banks combined in November, 1941, was 91 per cent; in April, 1946, 44.3 per cent.

Suppose a small national bank has been called upon for an unusual number of large loans to the businessmen of its community. It has reached the limit of its power to lend, either by creating deposits or by paying out cash. That is, its available cash is exhausted, and as its deposits have increased with its increasing loans, its reserve has approached the legal minimum. Its managers, believing that the business expansion in the community which is responsible for the unusual call for loans is a sound expansion and should be encouraged, turn to their reserve bank. That bank is required at all times to rediscount commercial paper for its member banks. This rediscount operation is precisely like the discount operation performed by the member banks for their customers. The transaction constitutes a loan to the member bank and yields a profit to the reserve bank. The national bank has in its portfolio notes, drafts, and bills of exchange of not more than ninety days' maturity (so-called "eligible" paper) which it presents to the reserve bank for rediscount at the prevailing rediscount rate, which must be announced every fourteen days. The sum represented by this paper is deposited to the credit of the national bank. By thus building up its reserves it may continue to expand its loans. It might have turned its eligible paper into cash in the form of Federal reserve notes (to be described shortly), to be paid out on demand, but that obviously would not have increased its deposit (legal reserve).

This is not all. With the approval of the Federal reserve authorities a member bank may also borrow from its reserve bank for a period not exceeding fifteen days on its own promissory note secured by a pledge of United States bonds or fully guaranteed obligations of the Federal government, or up to ninety days on its own note secured by deposits of commercial paper, or (since 1932) under certain conditions up to four months on other security. Under the legislation of 1935 such security may include corporate stocks and bonds and real estate. If all these provisions are considered, it will appear that a member bank now has power, partly at will and partly at the discretion of the Federal reserve authorities (ultimately the Board of Governors), to turn into deposits at its reserve bank practically the whole of its good assets, or, more accurately, to change one form of assets (for example, bonds) into another form (deposits in the Federal reserve bank).

As another measure by means of which loanable funds are placed where

they are needed, the Board of Governors has the authority to require one reserve bank to rediscount for another in just the same way that the reserve banks are required to rediscount for member banks. In fact, the reserve banks have readily co-operated with one another at times of particular stress in some sections of the country, instead of jealously holding fast to their own reserves. As Professor Kemmerer put it: "The reserves of the twelve reserve banks are now so closely piped together, that they may reasonably be considered to be closely connected tanks of a single reservoir."[4] We have essentially one reserve, not twelve.

The centralization of reserves under the Federal Reserve System thus has greatly strengthened the position of all member banks, has mobilized their entire financial power, and, as we shall see further, has made possible a large measure of central control that was badly needed but entirely lacking before. Under ordinary conditions the reserves of member banks now tend to flow to those sections of the country in which they can perform the greatest service, as far as lending rates afford an indication of such service and as far as expert central authorities can judge the comparative value of various services. Even more fundamental, centralization has given to member banks a degree of security impossible under the old system of separate reserves. The present arrangement does not prevent the banks from failing, because it does not prevent them from making bad loans. More than two thousand member banks, in fact, failed from 1921 to 1932. The existing system, however, does protect them from dangers arising out of inability to get cash at need against good loans not yet maturing. Moreover, it has done away with the strain on the larger banks that always occurred when depositing banks withdrew their funds.

Elasticity of Credit

We turn now to the second great purpose of the Federal Reserve Act, the provision of an elastic money. Under the national-bank system, deposit credit was rather inelastic, though less so than note issue. Each bank individually managed its own reserve, though it might keep part of it on deposit elsewhere, and each bank, all the way up to and including those in the central reserve cities, tried to keep loaned up as near as seemed safe to the limit set by its reserve. Hence when there came an extra demand for funds, there was nowhere in the banking system any adequate reserve of lending power. Rediscounting was considered bad banking practice, and the market for commercial paper was chiefly local. As we have indicated, there was likely to be either

[4] *The A B C of the Federal Reserve System*, p. 48.

feast or famine in the call-money market, with violent fluctuations of interest rates. As always, productive business paid the penalty of financial uncertainty in high interest rates.

It may conceivably be argued that the reduction in national-bank reserve requirements in itself increased credit elasticity, but as far as member banks tried to keep loaned up to their limit the result was to increase the volume of credit rather than its elasticity. The real provisions for elasticity of deposit credit are those already described, which permit member banks to borrow from the reserve banks at will by rediscounting eligible paper and, at the option of Federal reserve authorities and with the pledge of a wide variety of collateral, to borrow on their own notes. Such borrowing increases the deposit of the member bank in the reserve bank, and theoretically increases its legal lending power in a ratio that works out for the reserve system as a whole at about ten to one. Of course it does not follow that the bank actually can or safely may increase its loans in such a proportion. It is simply that machinery exists by the normal operation of which the member banks may at need bring about a great expansion of credit. Such machinery did not exist before the creation of the Federal Reserve System.

With these provisions for expansion, how is the contraction of deposit money brought about? Elasticity must work both ways. Of course it must be remembered that nothing can take the place of honesty and intelligence on the part of the commercial banker. The member banks must do their part, even though the Federal Reserve Act put the underlying responsibility for credit control into the hands of the Federal reserve banks and the Federal Reserve Board. The Banking Act of 1935 greatly widened both the power and the responsibility of the Board of Governors. In the original act it was contemplated that the contraction of member-bank credit was to be effected by means of the rediscount rate and the open-market operations of the reserve banks. By the open-market operations they can make credit plentiful or scarce; by the rediscount rate they control the price of credit. If member banks are borrowing from the reserve banks, an increase of the discount rates of the latter operates against the member banks in exactly the same way that an increase of the discount rate of a member bank operates against its customers. Member banks' borrowings from reserve banks are cut, their reserves are cut, and their lending power is cut, sometimes sharply. Thus they in turn will have to raise their own discount rate, their customers will borrow less, and the volume of deposit credit will shrink.

Aside from the rediscount rate, effective only when member banks are borrowing, the reserve banks have another and more powerful means of credit control in their open-market operations mentioned above. The reserve banks

are often and correctly spoken of as "bankers' banks," and they do deal chiefly with the banks and with the government, but they are not limited to this. Indeed, their work cannot be understood unless their open-market operations are rightly apprehended; through these operations they are able, if they wish, to bring their power to bear directly on the business situation, irrespective of the wishes of member banks or the exigencies of government finance. The reserve banks have the legal power to buy and sell in the open market commercial paper, obligations of the Federal government and its agencies, and tax-anticipation warrants of the states and the minor political subdivisions. This means that they may deal directly with the public in the buying and selling of all these classes of credit instruments. When the reserve banks sell in the open market, the paper is bought for the most part by the member banks or their depositors, since the two groups together make up the greater part of the business and financial community. In either event the reserves of member banks are drawn down, as they will have to make payments to the reserve banks. The opposite result follows when the reserve banks buy. If they buy from member banks, their deposits in the reserve bank will be increased; if they buy from the depositors in member banks, the result is the same. The reserve banks have used this method specifically to control member-bank reserves without regard to the wishes of the member banks themselves. If at any time the Federal reserve authorities fear that credit is getting out of hand and may start a "runaway movement," they can go directly into the open market and sell some of their holdings, thus cutting down the reserve of member banks and lessening their ability to lend. Such action was, in fact, their chief reliance before 1935.

Up to 1932 the excess reserves of member banks were small. They usually managed to lend well to their limit and, moreover, were often in debt to the reserve banks. At various times between 1929 and the end of 1933 the reserve banks purchased government obligations, the proceeds from which found their way largely to the member banks, which paid off their indebtedness to the reserve banks and with the remaining funds at their disposal piled up excess reserves, as during these years there was little demand for loans to business. By the end of 1933 excess reserves were the largest on record. In the two years following, with the gold inflow of those years, reserves multiplied almost fourfold. On December 31, 1935, there was in the hands of member banks a theoretical lending power of no less than 28 billion dollars. For two years the member banks had been practically out of debt to the reserve banks, so that the rediscount rate was useless as a means of credit control. Moreover, if the reserve banks had sold their total available holdings of government obligations, the member banks could have bought them all and still have continued to hold

large excess reserves. It was these conditions that gave rise to the provisions of the Banking Act of 1935 already mentioned, empowering the Board of Governors to increase required member-bank reserves up to a maximum of double the existing percentages. The gold flow which was in large part responsible for the increasing excess continued. By July, 1938, excess reserves had reached three billion dollars, and after abundant warning the Board of Governors raised the reserve requirements by one half. By the next summer they were pushed as high as the board had power to set them. In the summer of 1940, largely as a result of the accelerated inflow of gold since the beginning of the war, excess reserves stood at some seven billion dollars, a figure far beyond any present device for control possessed by the board should business and banks take advantage of the power to lend thus conferred. We shall return to this problem in our discussion of the Treasury in Chapter Twenty-two.

Note Issue

Bank credit, as we earlier saw, takes two principal forms, bank notes and deposit credit, of which the second is at present much the more important in this country. When the Federal Reserve Act was passed, however, it was note credit that received chief public attention. We have already pointed out the inelasticity of the bond-secured national-bank-note issues. The new law met this situation by arrangements that now have resulted in the elimination of the national bank notes and the substitution for them of Federal reserve notes based on a wholly different security.

The essential principle of Federal reserve notes is that they are secured by eligible paper in the portfolio of the reserve bank issuing them. Under the original arrangement, which remains unchanged in principle though modified in some details, a reserve bank wishing to issue notes was required to carry a 40 per cent gold reserve against them and to deposit with an officer known as the Federal reserve agent collateral in the form of rediscounted commercial paper to the extent of 60 per cent of the issue. The Federal reserve agent thereupon turned over the notes to the reserve bank, which then issued them in the form of loans to member banks. The theory was as follows: the time when unusually large amounts of money are needed is in periods of business and commercial activity, as in the crop-moving season and at the holidays. At such times businessmen will borrow heavily from the member banks, and they, in turn, will borrow heavily from the reserve banks by rediscounting the businessmen's paper. At the very time when extra money is needed, the reserve banks will be having presented to them for rediscount extra amounts of paper,

against which they can issue the desired money. So the currency issue will expand automatically as needed. As long as the extra demand for funds continues, so long will the notes continue to circulate, and so long will the businessmen's paper remain outstanding. When it is over, the paper will be paid off, and the notes, having done their work, will return to the bank that issued them and will be canceled. At the time when extra money ceases to be needed, the security for the notes, which was also the evidence of the need, goes out of existence, and the notes themselves are withdrawn from circulation.

By changing the security for bank notes from government bonds to carefully selected commercial paper bearing the endorsement of a member bank, the desired elasticity of note issue was, in fact, attained without any sacrifice of security. The circulation figures show a large degree of seasonal elasticity, and in a reasonably well-administered banking system self-liquidating commercial paper is bound to prove a good security. Federal reserve notes constitute a so-called asset currency; that is, they are issued against the assets of the issuing bank. The choice of this particular asset as the basis of issue was well calculated to insure both security and elasticity; but the provision of an elastic currency, which in 1913 seemed of great significance, has at the present time become of little or no importance.

The Transfer System

The remedy achieved by the Federal Reserve System for one further defect of the old banking methods, designated by Professor Kemmerer as the "cumbersome exchange and transfer system," can be illustrated from the student's own experience by reference to any set of canceled checks. Within each district the reserve bank of the district "clears" for all qualified banks, both member banks and others. By that we mean that should bank A hold checks drawn against bank B, amounting to $10,000, while bank B holds checks against A equal to $12,000, it would not be necessary for A to pay B $12,000 and for B to pay A $10,000. Instead the checks would pass through the reserve bank, which would transfer from A's deposit to B's $2000 and thus complete the entire transaction with no transfer of currency. Multiplied many times over by the number of credit items handled and the number of banks involved, this is essentially what takes place when bank checks are cleared. If the banks concerned are in two Federal reserve districts, the process becomes more complicated. Suppose A is in the first Federal reserve district and B is in the fourth. A holds $10,000 worth of checks drawn against B; for the moment suppose that B has no checks drawn on A. Bank B therefore owes A $10,000. The checks drawn against B go first to the Federal reserve bank

of the first district, A's reserve bank; then to B's reserve bank, that of the fourth district; finally back to B. At B's reserve bank $10,000 is subtracted from B's deposit; at A's reserve bank $10,000 is added to A's deposit. The debt now lies between the two reserve banks, the bank of the fourth district owing the bank of the first district. Under the control of the Board of Governors is what is now known as the Interdistrict Settlement Fund, once called the Gold Settlement Fund. Each reserve bank must hold in this fund a balance of not less than $1,000,000. At this point in the transaction we have been following, the deposit of the reserve bank of the fourth district (B's reserve bank) in this fund is reduced by $10,000, that of the reserve bank of the first district (A's reserve bank) is increased by $10,000. Again no currency has moved across the country, but settlement has been made. Suppose B had held a claim against A for $12,000. In the same way this would have caused an increase of B's deposit in the reserve bank of the fourth district, a decrease of A's in the reserve bank of the first district. On the books of the Settlement Fund $2000 would have been transferred from the credit of the reserve bank of the first district to that of the reserve bank of the fourth district. To gain a picture even dimly approaching reality, we must think of these two reserve banks as increased to twelve, all of which are handling checks drawn on thousands of banks and moving in every direction, but the principle should be clear even from this simple illustration. Despite its complexity the method works quickly and smoothly. The machinery for clearing within the districts, together with the Settlement Fund, has reduced the cost and trouble of handling checks and has almost eliminated the need for shipping currency from one part of the country to another, an expensive business as well as a cumbersome one.

Banking Legislation of the Thirties

Throughout this discussion occasional reference has been made to banking legislation since 1932. Before we can judge of the accomplishments of that legislation we need to bring its various provisions together. The experience of twenty years had brought considerable development of the devices for credit control just sketched. We now believe that the essential task of the Federal Reserve System in relation to the ordinary business of the country is to exercise an effective central control over credit. As a result, the laws of 1933 and 1935 materially strengthened the control of the Board of Governors over the rediscount and open-market policies of the reserve banks and gave to them new power of direct control over member-bank reserves. These changes, it will be seen, are definitely steps in the process of putting into the hands of that

body, working in conjunction with the Treasury, responsibility for controlling the volume and the quality of the credit created by the commercial banks of the country, and, insofar as credit policy affects prices, controlling prices for the general interest. The Federal Reserve Board had had the power of review and determination of the discount rates of the reserve banks. The Banking Act of 1935, in addition, required such rates to be established every fourteen days, or oftener if demanded by the Board of Governors. Thus in practice the board was given power to fix the discount rates of the reserve banks at its discretion.

In addition, it was given effective control over open-market operations. Up to 1922 each reserve bank pursued its own independent open-market policy. From that time forward a unified policy was gradually developed, and the Banking Act of 1933 gave legal status to the Federal Open-Market Committee, consisting of one representative from each of the reserve banks, which directed that policy. The act of 1935 changed the constitution of this committee, placing on it the seven members of the Board of Governors, together with five members annually chosen by the reserve banks, joined in five groups for the purpose of electing one member each. The reserve banks were required to engage in open-market operations on the basis of the regulations established by the committee. The Board of Governors, which of itself has the power to control the discount rate, thus has the power, acting in conjunction with the five members of the Open-Market Committee elected by the banks, to control likewise the open-market operations of the reserve banks.

Nor is this all. The board's power of direct control over member banks was sharply extended. The act of 1933 had already made one important change in consequence of the lesson learned in 1929. Before 1933 any bank presenting eligible paper to its reserve bank had the right to have it rediscounted, no matter what the purpose of the loan. By the new act the reserve banks were required to keep themselves informed of the loans and investments of their member banks and to report to the Federal Reserve Board if any bank was extending undue credit for speculative purposes. Thereupon the board was given power to withdraw the right of rediscounting from the offender. The act contained other provisions limiting loans for speculative purposes, and the Securities Exchange Act of 1934 gave the board added powers to limit the loans that might be made on securities. The board was thus given wide powers to prevent member banks from undue extension of credit for speculative purposes.

The act of 1935, in addition, gave the board an entirely new power to control not simply the use of member-bank credit for a specific purpose but the extension of such credit for any purpose. The board, as we have seen, was

authorized to alter member-bank reserve requirements, as it deemed necessary to prevent injurious expansion or contraction of credit, between the existing percentages (3 per cent on time deposits and 7, 10, and 13 per cent on demand deposits) and upper limits of 6, 14, 20, and 26 per cent respectively. In other words, without being empowered to lower reserve requirements, it was given the power to raise them by as much as 100 per cent of existing ratios. Such a power gives to the board a highly effective and, unless wisely used, potentially dangerous means of controlling the lending power of member banks.

In connection with the increased power of the Board of Governors over member-bank credit, it is worth noting that previous restrictions on the paper that Federal reserve banks may accept as collateral for direct advances to member banks, largely relaxed in 1932, were yet further broken down in 1935. Under regulations prescribed by the board Federal reserve banks are now permitted to make loans to member banks on the security of stocks, bonds, and real-estate mortgages. By its authority to make such regulations the board, acting through the reserve banks, has thus been given further wide power to control the lending activities of member banks.

The Federal Deposit Insurance Corporation

One other feature of the legislation of 1935 deserves attention. Five thousand bank failures during the years 1930–1932, following an equal number during the preceding decade, had brought widespread losses to depositors and had seriously shaken public confidence in the banks. The most effective means of restoring such confidence was to provide security for depositors. This the Banking Act of 1933 did by including a temporary system of insurance of deposits, which, somewhat modified, the Banking Act of 1935 made permanent. All member banks of the Federal Reserve System are required to belong to the insurance system; nonmember banks may be admitted upon approval by the Federal Deposit Insurance Corporation. Mutual savings banks may be similarly admitted. By December 31, 1944, the insurance system covered 13,263 of our commercial banks, with 97 per cent of the total deposits.

The Federal Deposit Insurance Corporation (hereafter referred to as the FDIC) was created to administer the insurance provisions of the law and, it should be added at once, to help make banking practice better and thus make deposit insurance unnecessary by preventing bank failures. To provide the insurance fund demanded, each insured bank is required to pay an annual assessment of $\frac{1}{12}$ of 1 per cent of its deposits, and the resulting fund is invested in government securities, thus earning interest until it is called on to make losses good. If an insured bank fails, the FDIC is required out of this fund to

pay the depositors as soon as possible, up to a maximum of $5000 to any one depositor. The corporation also acts automatically as receiver for national banks which have failed.

The insurance plan is one of full protection for small depositors, who constitute the overwhelming proportion of the whole number. Large depositors, on the other hand, must rely chiefly on what is recovered from the assets of the bank that has failed. On its face the system is one of making the strong banks pay for the failures of the weak ones. Since the banks must pay their assessments out of earnings, and since they must make their earnings more largely out of the large depositors who hold 67 per cent of their deposits than out of the small ones who hold but 33 per cent, it is likewise a system of making the large depositor pay for the protection of the small one.

As such, the system was opposed in its inception by many of the strong banks, which hold the body of the large deposits, and by many students, who feared that the plan would make for unsound banking. The unfortunate experience of various states in connection with deposit insurance was pointed out, and it was urged that strong banks would withdraw from the Federal Reserve System rather than carry the burden of deposit-insurance assessments. Irresponsible bankers, it was suggested, would be encouraged to greater carelessness than ever, while depositors would be deprived of any motive for putting their money into good banks rather than bad ones, and the deposit-insurance scheme itself would be wrecked on the rocks of bad banking and consequent increased bank failures. Such argument proved vain in the face of a record of twelve thousand bank failures since the first World War.

The history of the FDIC is still much too short to warrant the drawing of definitive conclusions on the large questions at issue in any such distinct departure from traditional banking policy, but the record up to this point is a good one. There have been no significant withdrawals from the Federal Reserve System; the advantages of membership are too great. Total bank failures, which had been above 500 in all but two years between 1921 and 1933, had fallen to 44 in 1936. During the twelve months ending September 31, 1936, there was not a single failure of a national bank—the first time such a thing had happened since 1881. During the last seven months of 1944 no bank of any kind failed, the longest period since 1870 without a failure. The credit for this improvement in the record of failures, needless to say, should not all be given to deposit insurance. Part was due to the tremendous mortality among the banks previous to March 5, 1933, and the vigorous restraining hand of the government thereafter, and part to the prosperity brought by the war.

No idea could be less well-founded than that the FDIC is exclusively, or

perhaps even chiefly, concerned with the administration of deposit insurance and the management and liquidation of banks that have failed. In the words of an annual report, "The most vital responsibility placed by Congress upon the Corporation is the maintenance of a banking condition such that the public is adequately served and few failures occur."[5] The FDIC is an agency designed to protect the helpless depositor as far as possible against the disastrous results of bad banking; but, perhaps even more important, it is an additional agency designed to prevent bad banking and encourage good banking, as far as those results can be promoted by the action of a powerful supervisory authority.

Summary

Running through the whole of our most recent banking legislation there can be discerned the evident purpose to concentrate the control of the whole credit facilities of the United States in the hands of the seven men who constitute the Board of Governors of the Federal Reserve System, to increase the power and influence of the central authorities in improving banking practice, and to give security to the depositor. The powers of the Board of Governors cannot be successfully exercised, however, without the co-operation of the Treasury, whose present fiscal and monetary powers would enable it, if so inclined, to negative the policies of the board. In fact, the two agencies work in close co-operation, and it is difficult to conceive of circumstances in which that situation in essence would not exist. In no way a political creation in the partisan or invidious sense of the term "political," in the broader use of that word the board is a politically created and politically controlled agency of high government policy in relation to business. It is one of the most important of that developing group of agencies through which government seeks to enable and require business the better to serve the general welfare.

[5]Annual Report, 1936, p. 7.

CHAPTER TWENTY

The Value of Money

The Level of Prices

AFTER this description of money and of the part played by the banks in bringing it into existence, we return to the topic suggested at the beginning of Chapter Eighteen, the value of money. We have seen that what we call money is a supply of promises to pay—acknowledgments of debt, be it government debt or bank debt. The paper on which these promises are engraved is practically worthless, and today it cannot be exchanged for gold, save under rigidly limited conditions; yet each dollar bill of worthless paper clearly has a value, namely, whatever a dollar will buy. The dollar that the bill is worth is a different thing from the bill itself. It is not a physical thing but a quantity of purchasing power embodied in the mysterious unit that we call a dollar, in which we measure the value of everything else. We may define the dollar as a unit of purchasing power legally established, in which the values of all goods except money are measured. Two problems at once present themselves: what determines this value, and how is it measured? We shall deal with the second question before turning to the all-important question of the influences which determine the value of our medium of exchange.

How much is a dollar worth? As we have said, just as much as it will buy—say, twenty lead pencils, or two pounds of beef, or half a theater ticket, or one fifth of a day's common labor, or one eight-hundredth of a cheap car, or a necktie, or three dozen oranges, and so on through all the prices of the innumerable things for which we spend dollars. Six months from today a dollar may be worth but ten lead pencils, or one pound of beef, or two dozen oranges. Current comment will state not that the dollar is declining in value but that prices are rising. The higher the prices the less the dollar is worth; the lower the prices the greater the value of the dollar. That is, the value of the dollar is the reciprocal of the general level of prices if we interpret prices in the broadest possible way, as including the payment for all services, for all property rights—in short, for everything for which money is spent. In all the comparisons that we as individuals make, some prices are moving up, and some down. To discover whether the general movement is up or down, and

how great a movement it is, we need some sort of average. This is only to say, in different words, that we need a measure for the value of money. An index number is such a measure, and a highly useful one, not only for estimating the value of money and changes in that value but also for measuring any series of quantitative changes.

Various methods of computing index numbers of prices are in use, the simplest of which is called the arithmetic average. A base year is chosen—by preference, if our comparisons are to be valid, one in which no unusual influences were at work on prices. The goods whose prices are to be compared are selected, the selection depending on the purpose of the comparison. If we wish to know whether cost of living is rising or falling we choose food, clothing, house rent, furniture—in short, those things which enter into the budget of every family. Index numbers of wholesale prices, of retail prices, of farm prices, of building costs, of stock prices, all have their particular uses. Suppose we are computing an index number of retail prices. After choosing the base year and selecting the articles to be used as samples, since obviously not every article in exchange can be included, we find the prices stood thus:

	1926		1931		1937	
Milk	$0.14	100	$0.11	78.5	$0.12	85.7
Shoes	7.50	100	5.50	73.3	6.00	80
Coffee	.35	100	.25	71.4	.28	80
Total		300		223.2		245.7
Average		100		74.4		81.9

If 14 cents, the price of a quart of milk in 1926, represents 100, the problem is merely one of proportion. Fourteen is to 100 as 11 and 12 are to what numbers? The sum of these results divided by the number of commodities used gives us a relative figure which serves as a convenient comparative measure. On the basis of this computation we can say with assurance that the prices of these products fell about one fourth between 1926 and 1931 and rose about one tenth between 1931 and 1937. Had we used a representative list of commodities, we might have made some general statement about the movement of commodity prices.

Suppose coffee in 1937 had been 50 cents a pound instead of 28 cents. Its relative figure would then have been not 80 but 142.8, and the average of the three would have been 102.8. Looking at this index figure, we should be justified in saying that prices had risen between 1926 and 1937. The increase in the price of coffee in our arithmetic average would have more than offset the fall in the other commodities, yet we are probably right in assuming that coffee plays a smaller part in the volume of transactions than either milk or

shoes. This in a small way illustrates one of the weaknesses of the simple arithmetic average. To avoid this defect a weighted average is frequently used in which an endeavor is made to prevent any single item from unduly influencing the result. As an illustration of a weighted index number we may examine that variety known as a weighted aggregate. Here we take the volume of each commodity that changed hands in the base year, multiply by the prices in each year under consideration, add the resulting figures, and find the relation of the total for each year to the total for the base year.

		1926		1931		1937	
	AMOUNT	PRICE	TOTAL	PRICE	TOTAL	PRICE	TOTAL
Milk	150,000 qt.	$0.14	$21,000	$0.11	$16,500	$0.12	$18,000
Shoes	10,000 pairs	7.50	75,000	5.50	55,000	6.00	60,000
Coffee	1,000 lb.	.35	350	.25	250	.50	500
			$96,350		$71,750		$78,500

Let the total for 1926, $96,350, represent 100; the total for 1931, $71,750, is to it as 74.4 is to 100, and $78,500 is to it as 81.4 is to 100. In place of 102.8 as the index figure for 1937 we have found a more significant figure, 81.4, by reducing the importance of the change in the price of a single commodity. It will readily be seen that in using this method the judgment used in choosing and weighting the commodities is all-important if the results are to be valid.

It has already been implied that the services rendered by index numbers are various. An index number for the cost of living provides a rough measuring rod for the purchasing power (or value) of the consumer's dollar. Real wages obviously are not rising, no matter how fast their money expression increases, if cost of living, as measured by the index number, is rising more rapidly. Comparison between index numbers for wages and those for cost of living might correct many misconceptions about the former.

Index numbers make many useful time comparisons possible. To measure accurately the value of money, a price index should include prices of every sort of thing for which money is exchanged, such as rents, services of all kinds, security prices, wages, payments for real estate, as well as commodities. Frequently, however, the index number of wholesale prices is used to indicate the changing value of money instead of a more inclusive and more accurate measure. From a wholesale-price index we can conclude that prices in 1913 were about 10 per cent lower than in 1937; in 1920, practically twice as high; in 1929, about 20 per cent higher than those of 1937. The dollar of the late thirties was worth as much as 90 cents of the 1913 dollar, $2 of the 1920 dollar, and $1.20 of the 1929 dollar, or, to turn the statement about, the 1937 dollar was worth one-tenth less than a 1913 dollar, twice as much as a 1920

dollar, and a fifth more than a 1929 dollar. Yet each of those dollars in its day was just as truly a dollar as is the dollar of today. Each of them in its time was *the* dollar. Plainly the dollar is not a fixed and unchanging quantity of value or purchasing power. On the contrary, it is almost constantly changing, as an inspection of the figures below clearly shows. Prices in general are forever moving up and down, which is to say that the value of the dollar is forever moving down and up. Wholesale-price movements as estimated by the Bureau of Labor Statistics will sufficiently illustrate the point:

Table XIX · Wholesale Price Movements
(1926 = 100)

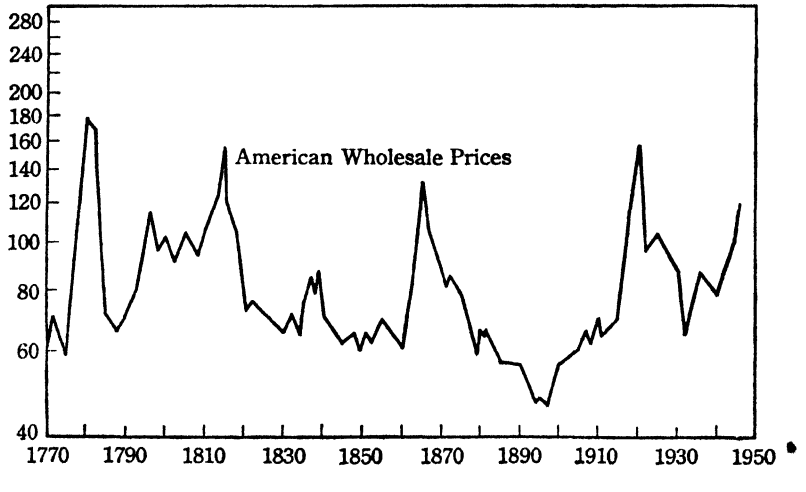
1929	95.3	1935	80.0	1941	87.3
1930	86.4	1936	80.8	1942	98.8
1931	73.0	1937	86.3	1943	103.1
1932	64.8	1938	78.6	1944	104.0
1933	65.9	1939	77.1	1945	105.8
1934	74.9	1940	78.6	1946	117.2[1]

The unit, or standard, in which we measure all values is thus a perpetually changing one. Compare this unit with our unit of length, the yard, which is legally fixed as the length of a certain bar of metal kept under as nearly uniform conditions as possible in a vault in the Bureau of Standards in Washington. That unit is as unchanging as it is physically possible to make it. Suppose that, instead, the yard were defined as the length of a column of mercury in a thermometer kept in a sunny place. Yesterday with this mercury yardstick I measured a piece of cloth and found that it was two yards long. Today the sun is not shining, and the temperature has fallen by forty degrees. I measure the same piece of cloth with the same yardstick and discover that the cloth is three yards long. It is the same piece of cloth, and its actual length is the same today as yesterday; yet it is a yard longer than it was. Suppose I have had the same experience measuring a dozen different things. All of them are longer today than they were yesterday. The explanation is evident. The yardstick has been shortened by the change in temperature. Exactly the same thing happens with our dollar measure of values. When prices in general go up, it is not because the actual values of all goods go up together but because the value of the dollar goes down. Long cloth meant really short yardstick, not a change in cloth. Similarly, general high prices mean not high values of goods but a low value of the dollar; low prices, a high value of the dollar. A low or high value of money is nothing but a high or low general range of prices.

[1]Figure for July 6.

The problem of the changing value of money, which is central in monetary theory, is likewise a question of surpassing practical importance. We need a stable measure of value just as much as we need a stable measure of length. General price movements—particularly, extensive and sudden ones—seriously disturb all economic relations. Sometimes they constitute major disasters. An essential quality of a good money is that it be not subject to rapid changes in value. The textbooks often point out that money should possess the qualities of uniformity, durability, divisibility, cognizability, and high value in small bulk. These are the characteristics of a good money metal, and were important when metallic money passed from hand to hand as the usual means of exchange. They have nothing whatever to do with the question of what constitutes a good money now. If we could get a dollar with a stable value it would be a matter of indifference what it was made of, or indeed whether it was made of anything. From the standpoint of theory and practice alike the attention of students of money has come to be centered increasingly on this problem of the stability of its value, though even stability of value is not an end in itself but a possible means to other ends.

Fig. 18. The Movement of Wholesale Prices in the United States, 1770–1946[2]



[2]From Garver and Hansen, *Principles of Economics*, Third Edition (Ginn and Company).

The Price Structure

Before turning to the heart of our problem, the determinants of money value, we may profitably indicate somewhat further some of the problems created by general price movements, which we referred to above as possible disasters. When the price level is changing we find that some prices move up or down much more rapidly than others, while some scarcely move at all. We have already distinguished certain prices as flexible, others as inflexible. The relationship which exists among prices and groups of prices at any given price level is frequently called the price structure. Once a price level starts a rapid upward or downward movement the established price structure is destroyed, because of the different rates of movement prevailing among different groups of prices. At this point the device of the index number renders a valuable service; for by its use the movement of various groups can be compared, and it is possible to separate the slow-moving, or sticky, prices from those which respond quickly to whatever influences are at work on the value of money. Once such a dichotomy in our price structure is established, we are able to study its causes and observe its effects. Many of the evils of a changing price level—that is, of money of unstable value—are to be found in the chaos created in the price structure because of this uneven response of different groups of prices. Whether price levels are moving up or down, if the movement is at all rapid some groups in the community are bound to be injured. Old relationships between costs and prices are destroyed; profit margins may, on a falling price level, be wiped out; sellers of commodities which fall in price rapidly may find their purchasing power abruptly and disastrously cut. With upward moving prices all those on fixed incomes, which change slowly if at all, find their means no longer adequate to maintain their accustomed scale of living: wages lag behind living costs, salaries of public officials shrink in value, annuities lose their former purchasing power. With sharp movement in either direction grave inequities result in the debtor-creditor relationships, debtors having agreed to return not a fixed purchasing power but a definite number of dollars. If, during the period which the obligation spans, the value of money declines, the creditor will receive in purchasing power less than he lent; if money appreciates, he will receive more. The greater the price movement the greater the injustice likely to be worked on one or the other. All these changes accomplish shifts in the distribution of the national income, a subject which cannot be pursued here but will reappear in Chapter Twenty-four.

Equally significant is the apparent effect of changes in the value of money on the working of the entire economic system, though at this point it may be

prudent to retract the word "effect," since we are by no means ready to dogmatize on causal relations, and say, instead, that fluctuations in the value of money are likely to be accompanied by serious changes in the amount of business activity, the volume of employment, and the aggregate of goods produced. The reasons for this connection may not yet be entirely clear to the student, but the fact is incontrovertible. Changes in the value of money are, then, closely related to the distribution of the national income and to the size of that income. In the preceding pages which have dealt with money there have been many suggestions that the important problem of monetary theory concerned the value or purchasing power of money and that the treatment of other money problems was preliminary to that central question. This is true, but an understanding of the influences which act on the value of money is important, not for itself but because of the close relation between that value and income creation and distribution. Comprehension of monetary theory is not an end but a step toward an understanding of the operation of the entire economic system.

We already know that the relationship between price movements and income creation is not everywhere the same. Suppose the value of money rises; that is, prices fall. The student will remember that under such conditions competitive prices tend to fall first and farthest, but that administered prices, those which were described as inflexible, in general maintain their level, or, if they fall, do so much more slowly than competitive prices. In place of falling prices we find, in a large group of industries, falling production. Thus, changes in the value of money have been accompanied in one part of our economy by changes in the volume of production, which may be said in a way to have protected the prices of this section of the economic order from the expected effect of changes in the value of money. Again this is to repeat what was said above, namely, that changes in the value of money are closely related to both the size and the distribution of the national income. In the contrasting actions of competitive and monopolistic industries or those of limited competition we find both relationships.

The Demand for Money

As a first step in examining the factors at work to determine the value of money, let us say that the value of money is determined in the same way as the value of anything else, such as a bushel of potatoes or a suit of clothes. As with other things, the explanation of the value of money must begin with a consideration of demand and supply. The problem of the value of dollars is a matter of explaining the conditions of demand for and supply of dollars.

People in business want dollars and offer goods for them.[3] They demand dollars. Other people have dollars and, by offering them in exchange for goods, supply dollars. This demand and supply, it must be observed, however, is a demand for and a supply of purchasing power. We attempt in the remainder of this chapter an artificially simplified sketch of dollar demand and supply, which will increase in meaning as its details are gradually worked in. The idea is at first difficult to grasp only because we must exactly reverse our usual mode of thought. Ordinarily a dollar at the counter means the demand for three golf balls; in reverse, three golf balls means the demand for a dollar. The second expression, not the first, is important for the present analysis.

This idea is also more difficult to comprehend than the explanation of commodity price because when we first examined the concept of demand in the sense of demand schedule we segregated particular commodities. It was fairly simple to consider the demand for strawberries and see the working of the law of diminishing utility in the individual-demand schedules and the way in which the individual schedules added up to the total demand. With money we cannot segregate the infinitude of items which enter into its demand schedule without a fantastic departure from reality. However, it may start our study in the right direction if for a moment we make just such a departure. Let us suppose that there is only one article—bread—in a given enclosed area and that for a moment all exchange is between those who have money and those who have bread. Bread constitutes the sole demand for money. The bakers bring to market 500 loaves on a day when the stock of money in the community is 100 dollars. Though the bakers have received but 10 cents a loaf in the past, they realize that with their bread they can demand the entire amount of money in the community and they raise the price of a loaf to 20 cents. They are able to do this because under our assumption possessors of dollars have no reason for holding any of them back, as there is nothing else they can do with them. If both bread and meat were to be purchased with the 100 dollars, the bakers would have been more modest in their demand for dollars; otherwise they could not have sold all their bread. If the supply of dollars in the community had been smaller, the effect would have been to give to each dollar a higher value in bread. If for loaves of bread we substitute all goods and all obligations that call for dollar payments, we may be able to gain some idea of what we mean by the demand for money. We are so habituated to thinking in terms of an insatiable

[3]Though we use the word "goods," the student should remember that property rights also constitute part of the demand for money, and should read "goods" as covering all that is offered in return for money in our society.

desire for money that it needs a considerable mental effort to substitute the notion that effective demand only exists when there is something to be offered in return, and that there is a demand schedule for money as for wheat.

The sum total of that schedule is made up of the demand of people or institutions who have something to sell or who are in a position to call for payment from others on account of past obligations. A merchant offers 10,000 pairs of shoes for sale at $3 a pair. He makes effective demand for $30,000 or any part of it. Whoever buys any of his shoes must put up the money. A worker offers his day's labor for $4. He is demanding $4 in money, and anybody who hires him must meet the demand. An investor owns a 5 per cent $1000 bond of a rayon company. On the semiannual interest date he demands $25. The greater the sum total of all such demands on a particular day the greater is the demand for money. The demand is a continuous but continually changing one. Today's goods are sold; and tomorrow a fresh set appears in the market with price tags attached, so to speak, creating a new demand. The greater that demand the higher is the value of money likely to be—that is to say, the more likely are prices to be driven down, if we assume no offsetting influences at the same time.

The demand for money on a particular day, then, is (I) the whole supply of goods offered for sale on that day, multiplied by the prices at which they are offered, plus (II) the total of claims maturing on that day which arise out of previous transactions, such as the interest of our illustration, pay rolls falling due, and other similar obligations of every sort. The first category (I) of the demand for money embraces three groups of things for sale: (1) present goods, that is, the material goods actually in existence offered for sale on the particular day, and the day's services similarly offered; (2) future goods offered and paid for by those who are willing to make contracts; (3) securities, like stocks, bonds, and mortgages—evidences of ownership and debt; (4) the demand of governments for tax payments. There is no way of making the concept of the demand for money simple, because the facts are highly complex. The total demand depends on the anticipations and the financial needs of all those (chiefly business concerns) who have something to sell on a particular day, together with the total of dollar obligations arising out of all previous transactions falling due on that day. Part of the demand is for currency, part of it for credit, part for either. But the total of that demand on the given day, be it a demand for cash or for credit, constitutes the demand for money, which is one element among the factors determining the value of money. A multitude of goods offered for sale indicates a large demand for money; this, leaving out of consideration other influences, implies a high value of money, that is, low prices of goods.

The Stock and the Supply of Money

Before considering the supply of money, it is necessary to recall a distinction made earlier. In defining the supply of a commodity we found that it was not synonymous with the stock of that commodity. Stock was the existing total; supply, the amount that would come to the market at a series of possible prices. The amount of stock in existence would of course have large influence on the supply at any given time, but the two were by no means identical. The same distinction must be observed with money. The total stock of money in the country includes the body of funds in existence, whether in the hands of private individuals, the banks, or the government, and whether currency or deposit credit. It is important only because of its influence on the supply. By supply we mean the number of dollars which will be offered in exchange for goods or in payment of obligations. Stock may increase without increase in supply, though an increase of stock makes an increase of supply possible and probable. On the other hand, supply may increase with no increase in stock. The distinction is not difficult to comprehend, but it is frequently forgotten in discussions of the supply of money.

This supply depends on the choices of those who control it. Money is offered on the market by consumers (including institutions) who want goods for their own enjoyment; by investors and speculators, who want to buy securities; by producers (chiefly business concerns) seeking profits, who want equipment, materials, and labor to carry on the productive process; by banks, that make it available to others in exchange for some form of future obligation; and lastly, by the government. On any particular day consumers come into the market with dollars at command in return for which sellers are willing to let them have goods. The money that a consumer would be willing to give up for goods at various prices on that day constitutes his contribution to the supply schedule. The total supply on any day, we reiterate, bears no necessary relation to the total stock of money in existence on that day, any more than the supply schedule of wheat on a particular day bears a necessary relation to the total stock of wheat. One consumer may have one hundred dollars in his pocket and a thousand dollars on deposit in the bank and yet not feel the slightest inclination to spend a cent, no matter what the value of his money. Only that part of his money which is "spendable" on some terms is part of the supply, though of course his part of the stock is potential supply for some future time. Another consumer may have a nickel in a chubby fist and offer it all for the first ice-cream cone he sees. His nickel is part of the money supply.

Equilibrium and the Price Level

The value of money, depending on the demand for and the supply of money, must therefore be explained in terms of the specific influences that affect that demand and supply. On the demand side we have noted the supply of present goods being currently offered. This is largely a matter of current production and the prices asked, which depend to a considerable extent on future anticipations as well as on present financial needs. We have noted the offer to make contracts for the sale of future goods and to sell securities, depending in both cases on future anticipations. We have noted the total of money claims falling due at the particular time, depending entirely on unsettled past contracts of all kinds. The demand for money at any time is thus a total depending at once on past obligations, present performances, and future anticipations.

In respect to supply we have mentioned the part played by consumers and have observed how businessmen, utilizing the savings of investors and the resources put at their disposal by banks, supply funds both for permanent equipment and for speculation, the amounts supplied depending on the anticipated profits of business. Whatever affects such anticipation thus affects the quantity of money offered in the market by businessmen. Needless to say, a great variety of circumstances, perpetually changing, forever combine to affect such anticipations, and in consequence the supply of money. We have also suggested that the government is a supplier of money, though that subject we shall not develop further at this point.

The equilibrium of the demand for and supply of dollars may conceivably be affected either by changes in the quantities of goods offered in the market or by changes in the prices at which particular goods are offered. For example, had the shoes of our earlier illustration been offered at $5 instead of $3, they would have constituted a demand for a larger number of dollars. Up to this point our discussion has been held to simple terms and one-way relations: anything that affects the demand for dollars or the supply of dollars affects the value of dollars. The relations are far more intricate than is suggested by this statement. Suppose that for any reason whatever the supply of dollars has increased. In part of our economy the immediate result will be that prices will go up (value of money down). Our dollars will purchase less of the existing goods, and we experience a change in the general level of prices. As we know, this does not mean that all prices will move up or down uniformly, but that by irregular and varying changes of different prices the necessary equilibrium between demand for and supply of dollars will be reached, and we shall discover that our dollars, in general, buy less than they did before. But as the

supply of money increases and prices begin to move upward the effect of the rising prices is to increase production and consequently supplies of goods, which will constitute new demands, and we shall have a new demand for dollars as well as a new supply. On the other hand, a decrease in the supply of money, with its accompaniment of falling prices, tends to discourage future production and to reduce the future demand for dollars. Under these circumstances a reduction in the supply has operated to bring about a reduction in demand and a new equilibrium at which the volume of exchanges will be smaller than at the old level.

Here we have considered changes in money supply and their effect. Let us, instead, assume that the initial change comes in demand: demand increases because of an increase of goods, the supply of dollars being unchanged. The first result would be a rise in the value of money (fall in prices). Next there are alternative consequences. If consumers respond by greater spending, and producers, encouraged to believe that profits are to be made, go to the banks for more money, a new supply of money may follow the new demand. This almost certainly presupposes that the change in demand has been the result of improved methods of production and lower costs. The other possibility is that the falling prices may discourage future production, and producers may not increase their supply of offered dollars. The new equilibrium, then, will raise the value of money still higher, that is, lower prices still more. In all this it is the *changing* prices that are important, not the level of prices at any given moment. The change, or the belief that there is to be a change, determines the actions of the producer and to a large extent those of the consumer.

In studying commodity prices in competitive industries we found that demand exerted the greatest influence in short-time determination; in looking for the changing factor which operates on the value of money we usually look to the supply side first, but it should be remembered that the demand also may shift and may exert its influence on the equilibrium.

This explanation runs in terms that are at bottom psychological, just as does the explanation of all other values. The value of money is not a mechanical question, a matter of simple mathematical relations between goods and dollars which are the means for paying for the goods. On the contrary, it is a question of all the influences that make men, both as consumers and as producers, willing to exchange dollars for something else. As consumers they are interested in dollars as a means of getting the goods they want, and within income limits they give up whatever number may be necessary to obtain the living to which they are accustomed. Allowing for certain seasonal variations, they supply dollars with fair regularity; for most of us receive our money income weekly, fortnightly, or monthly, and pay it out in more or less regular

fashion. Consumers, then, will not cause great changes in the supply of dollars at different times. The producer in paying his current expenses also runs on schedule, but in his constructive and developmental activities he is the soul of irregularity. He thinks he sees an opportunity for profitable operation if the size of his plant is doubled. He wants to supply funds immediately for this purpose and goes to the bank, which supplies him with dollars which he puts into the market. As initiators of business expansion enterprisers tend to increase the supply of dollars rapidly at times and at other times to cut it quickly. Another cause of irregularity in the money supply from time to time is the anticipation of future changes, which gives rise to speculation. At times a feeling of hopefulness pervades the entire community. Consumers spend more freely, businessmen supply enlarged production facilities, speculators borrow for future profits. Everyone anticipates rising prices, and there is a general rush to buy before the rise. The banks are called on to create deposit credit. Money supply may be markedly increased with no increase in the demand for dollars for some time. The result is bound to be what was anticipated—lower value of money. At times of doubt the opposite result may be brought about. Consumers may spend cautiously, producers may contract their payments, bankers may call in loans. The decrease in supply will tend to raise the value of dollars (lower prices). We are not here describing the business cycle, but much of this discussion may be recalled with profit when we reach that subject, for changes in the value of money are closely related to the phenomena which make up the business cycle.

The Quantity Theory of Money

In the light of what has been said, the "quantity theory" of money ought to offer little difficulty. In its earliest and crudest form it has been stated thus: "Double the quantity of money, and, other things being equal, prices will be twice as high as before and the value of money one-half." Modern quantity theory, however, bears small resemblance to this statement. In explaining the general level of prices it admits three elements: money, velocity of circulation of money, and all the possible transactions which call for money. As cash and credit do not always move in the same direction or at the same velocity, it is more useful to consider them as two separate items. Students have expressed the relationships existing between these three factors in what is called the equation of exchange, in which M stands for quantity of cash, M' for quantity of credit, V for velocity of cash, V' for velocity of credit, T for transactions, and P for price level, interpreted in the broadest possible way as all-inclusive of anything which calls for money payment. By "velocity" is meant the

average number of times each unit of money is paid out in a given period. Suppose there are five men in a community, each owing one of the others one dollar. A alone has a dollar, which early on Monday morning he pays to B, canceling his debt. B at once pays C, who in turn pays D, D clears his debt to E, and E by noon on that day pays off the dollar he had borrowed from A. The single dollar has done the work of five dollars by moving from hand to hand with great speed. Imagine a small closed community, by which we mean one completely self-contained. The village and a farm area about it have no commerce with the outside world. In this community there is a very limited number of dollar bills, but trade in the community is lively. The consumers spend each day all that they receive. The recipients—merchants, workmen, and suppliers of all kinds of services—do likewise. Farmers who bring food to the village receive money, most of which they pay out for supplies before they leave the village. No "rest period" is allowed to any one of the hard-worked dollar bills, and each dollar bill in a given week has accomplished a volume of transactions which might have made use of seven or eight times as many less nimble dollars. Suppose that in a neighboring community spending habits are very different. Income is precarious and consumers are frugal. Once receiving money they deposit it in checking accounts against which they seldom draw, or in cash in their own pocketbooks for future emergencies. The "rest period" of each dollar is long as compared with that of the first community. The degree of regularity with which income is received, the certainty of future income, the spending habits of the community, the development of the use of checking accounts, all influence velocity. Not only will it differ greatly from community to community but it will also vary greatly in different periods. In times of optimism spending will quicken and velocity thus will be greater; in times of business distrust money may be held idle for longer periods. Belief that prices are about to rise may increase velocity, everyone buying in order to forestall the increase and by his action helping to bring the very rise that is predicted. Falling prices may check velocity, because buyers wait to see whether they cannot "do better" later. Again, their action helps to speed the fall.

We now are ready to return to the equation of exchange, which runs $MV + M'V' = PT$. That is, for any given period all cash, multiplied by the speed with which it moves, plus credit, multiplied by the speed at which it moves, is equal to all transactions effected by money multiplied by the average price, or price level. It could not be otherwise, for what the equation says is that the transactions which call for money, multiplied by their prices, PT, equal the amount of money for which they call, $MV + M'V'$. If M increases *without other change*, P must increase; if M declines without other change,

P must decline; if T and M' decline together, P may remain unchanged. There is no statement of causation here. The equation must not be understood to imply that changes in P necessarily originate in M or in M' or in V or V', though they may do so. It merely states that the relationship in any given period must be the one indicated. Some of the underlying influences that determine each of these elements we already know; others we shall be able to add with further knowledge.

No one familiar with the history of prices would for a moment deny that prices may be and often have been strikingly affected by changes in the quantity of money actually or prospectively in existence. The price revolution of the sixteenth century in Europe, following the great inflow of the precious metals from America and elsewhere, illustrates the effect of an increase in money, as do the high prices that prevailed in California during the years following the discovery of gold in 1848. Had President Roosevelt in 1933 announced a purpose of using the power conferred on him by legislation to issue three billion dollars of paper money in exchange for United States bonds, people generally, and especially businessmen, probably would have concluded that prices were likely to rise. In consequence there would have been a rush to buy—in other words, an increase in the supply of dollars—and prices would, in fact, have risen. Suppose, on the other hand, that the Board of Governors of the Federal Reserve System announces policies that look toward a reduction in the quantity of Federal reserve notes (our most important form of currency) in circulation. Businessmen may think that prices are going down, may consequently increase the demand for dollars in the market by offering more goods for sale immediately, and thereby may cause prices actually to go down.

It should by now be clear that the discussion of the value of money is a discussion of its purchasing power, that is, of prices. It differs from our earlier discussion of prices in that it deals with the movements of all prices or of large groups of prices, while that dealt with prices of particular goods. From this point forward we shall become more and more concerned to see how changes in the value of money affect the volume of production and the distribution of the national income. A stable value (by which we do not mean an unchanging value) is important because of the damage to economic well-being worked by rapid and violent changes.

CHAPTER TWENTY-ONE

The Gold Standard; Foreign Exchanges

IN OUR description of the forms of money which we carry about, there was clear intimation that in the recent past there had been a change in the position of gold. Not only in our own country but in the countries with which we traffic, gold has lost the supremacy which it once possessed. As trade developed in various parts of Europe during and after the medieval period, money as a means of carrying it on became increasingly important. As money of one kind and another came into greater use in the different trading centers, gold and silver demonstrated their special adaptability for monetary purposes, as they had already done long before in the ancient world. Accordingly, they came to be eagerly sought after by the states that arose out of the feudal confusion, and the struggle for the precious metals played a part in the history of Europe from the fifteenth to the eighteenth century. In the outcome most of the Western countries came to employ one or the other or both of these metals as the material of their basic money. A certain weight of that metal was usually taken as the money standard, like the silver shilling of Britain, the Maria Theresa dollar of Austria, and the gold louis of France. Gradually there was developed the idea of standard money, which eventually became the idea of a money with which all other kinds of money were maintained at parity. Since the usual method of maintaining parity was to redeem all other money in gold on request, the standard came to be defined as the money in which other money was redeemed.

Governments early undertook to determine the standard coin and to monopolize the profitable business of coining money. The weight of the standard unit they were likely to change from time to time for a variety of reasons, often, though not always, discreditable to those who made the changes. A sovereign with a monopoly of coining was under great temptation to debase his coinage. By lessening the weight of his coins or increasing the proportions of alloy in them he could increase the number of coins produced from a given amount of gold or silver. Thus he could enjoy the added coins as an increase to his revenues, instead of having to wring such increase out of an unwilling people by taxation. Monetary history is filled with the record of such debasement of the currency, usually followed sooner or later by attempts at partial

or complete restoration of older standards. The cheapening of money, it should be noted, would be favorable also to debtors, who thereby would find the burden of their debts decreased. In managing this business rulers were guilty of much foolishness and knavery; but it should not be forgotten that if they had not monopolized it, and had not prohibited counterfeiting under pain of drastic penalties, private knaves would have prevented the attainment even of such measure of uniformity and dependability as actually was achieved. If trade was to be facilitated, money of dependable value was needed, and the efforts of conscientious monetary authorities were directed to supplying such a currency. Little was really known about money, and, all questions of interested motives on the part of the coining authorities aside, it is not strange that the management of monetary affairs should have been marked by many blunders and stupidities.

Development of the Gold Standard

The central monetary problem of the nineteenth century only gradually became clear. The great desideratum for a money system, as it was conceived by students during the last quarter of the nineteenth and the first quarter of this century, was that the money unit should change as little as possible in value, that is, that prices should vary as little as possible because of the money in use. By this we do not mean that students believed that individual prices of particular goods ought to be unchanging, or even that an average of prices of things in general should be absolutely fixed. When we charge goods in the shops or deposit money in the bank or make contracts or borrow or lend, we wish to know that in a week or a month or a year or five years the money units—with us, dollars—we are now promising to pay or planning to receive will have approximately the same command over goods that they now have. This result has never been attained by any money system, but it is this which governments in modern times attempted to achieve by means of the device of a "standard" money in which all other forms of money should be redeemed, even though for a long time they realized their own purpose but dimly. Later, monetary authorities have perceived that what is needed is the maintenance of stable production, and that stable value of money should be a goal of monetary management in large part because it contributes to reduce the fluctuations of production. This realization, however, is recent. Stable money, rather than stable production, was the aim of most governments during the years when the gold standard was widely accepted as the most desirable money system. For the moment our concern is to comprehend why governments believed that to redeem paper in gold or to promise to do so would achieve

a stable money system. To answer that, we need first to see what determined the choice of gold (or, in some instances, silver) as the favored metal.

There was wanted a money material which would maintain a reasonably stable relation to the body of goods exchanged in the market. It must be a durable commodity. It must be something which did not change rapidly in amount or in quality. There must be a steady demand for it. A commodity having these characteristics, it was argued, would vary little in value, that is, in power to command goods in general. If all forms of money in use were tied to this commodity in such fashion as to increase in amount only when it increased, and to decrease only when it decreased, then the stability which characterized the value of this standard metal would also extend to the value of all money no matter what its material. What governments were devising when they chose a metallic standard, and provided for the redemption of their money in the chosen metal, was a means of keeping a partial control over the supply of money. If all money must be redeemed in gold, the amount of other forms could not outrun the amount which the available gold could redeem. And since the amount of gold changed slowly, there could be no violent changes in the amount of other forms.

A second benefit which the use of a gold standard was expected to bring was the provision of a form of common money whereby trade could be carried on between countries using different money units. There is a widespread notion among those who know little of monetary development that there is something "natural" about gold as a basis for money, and that the gold standard has constituted the foundation of national and international financial relations during the greater part of modern history. As a matter of fact, it was the accepted legal system on a genuinely international scale for only about a third of a century ending in 1914. During that period, however, it performed a highly important service in helping to weld the countries of Europe and a large part of the Western continent into such economic unity as they possessed at the outbreak of the first World War. For that reason, and also because the experiences of those years have still so strong an influence on the monetary thought and practice of today, it is important to understand what the gold standard was, what it did, and how it did it, as well as what it failed to do.

The Essentials of the Gold Standard

When we here speak of the gold standard, we refer to the traditional gold standard as it existed in its most highly developed form, say from 1879, when the United States came back to gold after being for nearly twenty years (in

practice, though not by law) on a paper standard, down to 1914, when the calamity of the first World War wrecked a large part of the apparatus of modern civilization. It is often, and properly, spoken of as the international gold standard, though in legal fact it was a series of separate national standards, all of them based on gold and therefore actually operating in economic fact as a single international standard. We shall describe the system as it existed in the United States after the passage of the Gold Standard Act of 1900, the legal basis of our monetary system until 1933. The essentials of the gold standard of the United States were as follows:

1. The unit of value was declared to be the dollar, which was to consist of 25.8 grains of gold nine-tenths fine. The gold dollar thus contained 23.22 grains of pure gold.
2. The government agreed to redeem all other kinds of money in gold dollars on demand.
3. The mints were open for the free (that is, the unlimited) coinage of gold into dollars at the rate of 25.8 grains to the dollar.
4. The export and import of gold were absolutely unrestricted.

These four features of the traditional gold standard were all necessary to the proper working of the system. They may profitably be repeated in generalized form: (1) the money unit, or standard, a fixed weight of gold; (2) redeemability of all money in gold money; (3) free convertibility of gold into money and money into gold at the fixed rate established in (1); (4) free export and import of gold. These same features existed in the system of every other country that was on a genuine gold standard, and the operation of the standard must be examined with that fact in mind.

By adopting a gold standard, governments, as already stated, hoped to accomplish two ends. First, each government hoped to give stability to the internal purchasing power of its money unit by tying the value of that unit—be it the dollar, the pound, the franc, the mark, or what not—to the value of the weight of gold legally declared equivalent to the unit, and making all money redeemable in the gold unit. In other words, it hoped to stabilize the domestic price level. Secondly, it hoped to establish the value of its own money unit in a fixed relation to the value of the units of all other countries on the gold standard. In this way it hoped to facilitate foreign trade and investment by getting rid of the obstructions occasioned by variations in the power of the unit of one country to command that of another—the power of dollars to command francs, for example. The first hope, as we shall see, was realized in only modest degree. The second, in the heyday of the gold standard, was in large measure attained.

Let us see how these results were brought about. First, it must be observed, since all other money (paper, silver, nickel, and bronze) was redeemable dollar for dollar in gold money, every kind necessarily had the same value. All money was worth as much as the gold money.

Secondly, we come to the heart of the gold standard, the tying of the value of the legal money unit to the value of a fixed weight of gold. Under free coinage the gold-miner had two markets, the mint and the goldsmith's shop, the latter representing the entire demand for gold for use in the arts, that is to say, for all nonmonetary purposes. At the mint he had an absolutely unlimited market for any amount of gold at a fixed price, $20.67 an ounce. Since there are 480 grains of gold in an ounce, and the mint coined 23.22 grains of pure gold into a dollar, with no limit on the amount it would take, plainly the goldsmith could never get an ounce of gold for less than $20.67. If he offered less, all the gold would go to the mint. Brides would have to go without wedding rings, and teeth would have to go on aching for lack of gold fillings.

But if the bride and the sufferer from toothache could never get gold for less than $20.67, might they not on occasion pay more, thus making the gold in money worth more than the money itself? That is to say, might not the price of gold in the arts rise above the mint price? Temporarily, yes, but not for long. Suppose that for any reason the price in the arts went up to $22. All the gold, including that part of the new supply that was previously going to the mint, would now go to the goldsmith. More than that, all laws to the contrary notwithstanding, people would melt down gold coin and sell the resulting gold to the goldsmith. Say that under these circumstances a man had $2067 in gold coin. He would melt it down into 100 ounces of gold, and sell them to the goldsmith for $2200. How long, under such circumstances, could the market price of gold stay above the mint price? Only so long as it took the added new supplies from the mines and the product of the melting pot to bring the market price back to the mint price.

Thus the market price could neither fall below nor rise above the mint price. Always an ounce of gold was worth as much as $20.67 in money, and always $20.67 in money was worth as much as an ounce of gold. In terms of the money standard, always 23.22 grains of gold were worth as much as a dollar, and always a dollar was worth as much as 23.22 grains of gold. The two values were tied inseparably together. A dollar, as was explained in the last chapter, had a certain value, a certain power to command other goods, arising purely out of the fact that it found acceptance in exchange for goods. Gold weighing 23.22 grains had a certain value, a certain power to command other goods, arising partly out of the fact that it could be used to fill aching teeth and partly out of the fact that it could be used as money. These two

different values, however, that of one dollar and that of 23.22 grains of gold, arising out of different causes, by the operation of the gold-standard law were kept always equal to each other, as we have shown.

The necessary equivalence of these two values was important because it made the value of money (purchasing power) depend partly on the value of gold in the arts, and the value of gold depend partly on the value of money, the former being the more significant point for our purpose. If the value of gold for use in the arts was, in fact, more stable than the value of money would have been if not tied to gold, as the theory assumed, then the linking of the two values did, in fact, lessen somewhat fluctuations in money value, because no change in money value could be effected without a corresponding change in the value of gold.

Price Movements under the Gold Standard

It seems reasonable to believe that to some extent this was true, but the resultant success attained in stabilizing the value of money was certainly not outstanding. We were, in practice, on the gold standard, it will be recalled, from 1879 to 1900, and legally from 1900 to 1933. Let us take the prices of 1913 as 100, and indicate little but the high and low points of major movements. Wholesale prices moved as follows: 1882, 98; 1897, 67; 1920, 226; 1921, 147; 1932, 98. Prices, it will be noted, fell by nearly one third in the fifteen years from 1882 to 1897, rose by a half in the next sixteen, and by 1920 were more than three times as high as in 1897. By 1932 they had fallen to less than one half the 1920 level. To say the least, the record is not brilliant. How much worse it might have been without the restraining influence of the gold standard we cannot say.

The reason for lack of price stability under the gold standard is not far to seek. Notwithstanding popular opinion to the contrary, the gold standard was not a satisfactory regulator of relations between the demand for and the supply of money. On the demand side, as we have seen, the effectively expressed wants of the consumers, the activities and calculations of producers, and the offerings of speculators vary from time to time. They will thus cause money value to vary unless the supply of money varies as the demand varies. The gold standard did, and could do, little to affect the stability of demand. Its effect was on the supply side. On that side it operated in two ways.

First, it provided an "automatic" method of determining the stock (not the supply) of standard money. It took out of the hands of governments and put into the hands of gold-miners, acting in pursuit of profits, the task of

determining how much should be added year by year to the stock of standard money. The profitableness of gold-mining, which depended largely on the accident of new gold discoveries and on the advancement of the technique of gold-mining, thus controlled the stock of gold money, with whatever consequent effects were exerted on the supply of money in general. There is no evidence to show that changes in the stock of money operated significantly to bring the supply into harmony with the demand and thus to keep prices stable.

Secondly, by requiring all other money to be redeemable in gold money the gold standard undoubtedly did exercise a certain influence over the supply of bank deposits. It induced caution on the part of bankers in creating deposits at the request of businessmen, since the banks thereby incurred a liability to redeem such deposits in gold. Any effective redemption requirement induces such caution. But if the stock of gold money did not fluctuate with the demand for money, there seems to have been little reason for expecting their caution in creating added deposits to be more effective in keeping the supply of money adjusted to changing demand.

The Foreign Exchanges

Up to this point our explanation of the value of money has concerned itself entirely with the domestic price level. But the dollar will buy goods abroad as well as at home. To be sure, foreigners generally will not accept dollars, but will demand their own money in payment for what they have to sell. Nonetheless, in times of peace the possessor of dollars can turn them into pounds and buy British goods, or into francs and pay Swiss hotel and travel bills. The value, or purchasing power, of the dollar thus embraces not only the quantity of American goods that it will buy but the number of units of foreign money, and therefore the quantities of foreign goods, that it will purchase. As a matter of common sense we should expect the internal and external purchasing power of the dollar to move together; as prices in the United States rise, so we should expect the prices in dollars of foreign currencies to rise also. We should expect dollars, buying less American goods, to buy fewer pounds and therefore less British goods also. Broadly speaking, this is what happens, but the connection between internal and external purchasing power is not simple and direct. The relation is worked out through the machinery of foreign exchange.

By foreign exchange we mean claims to foreign money. These claims can be used in the foreign country for the payment of debts, for the purchase of goods, or for short-term or long-term lending. A bill of exchange, such as a

draft for £1000 sterling, is nothing but the documentary evidence of such a claim. It is an order on someone to make payment of £1000 in British money. If it costs $4920, the price, or rate of exchange, is $4.92 to the pound sterling. A foreign-exchange rate is the price that must be paid in the money of one country for a unit of the money of another. In the last week of April, 1946, one could buy in the New York market a claim to a pound sterling for $4.03, a franc for .8 cent, a Swedish krona for 23.86 cents, and so on through the whole list. A dealer in foreign exchange is engaged in buying and selling such claims. Their value depends on the demand for and supply of claims. At this point we are concerned, then, with the conditions determining that demand and supply and therefore the price, or rate of exchange.

The general principle involved is extremely simple. Whatever transaction entails a transfer of funds by someone in this country to someone abroad creates a demand here for foreign exchange; whatever entails such a transfer by someone abroad to someone in this country creates a supply of such exchange here. An American importer buys £1000 worth of Staffordshire pottery. He wants a claim of £1000 to pay the bill. The import creates a demand for sterling exchange. An automobile company sells a hundred cars in Argentina for 240,000 pesos. It has a claim on 240,000 pesos that it wants to sell for dollars. The export creates a supply of peso exchange. An American tourist spends a summer in Switzerland at a total expense of 3500 francs. In order to do it he has to get a claim on 3500 francs. His trip creates a demand for franc exchange. An American investor owns 5 per cent bonds of a French manufacturing concern to the amount of 100,000 francs. On the semiannual interest date he has a claim to 2500 francs which he wishes to sell for dollars. His right to interest creates a supply of franc exchange.

Because of the intimate relations existing between the various exchange markets, it is a simple matter to trade one kind of exchange for another. A right to receive francs, for example, may readily be traded against an obligation to pay marks. Consequently, on any given day all demands in our markets, centering in New York, for foreign exchange of every kind may without serious error be thought of as constituting a unified total of demand for foreign exchange, and the total supply may be similarly conceived. On this supply-demand relation will depend the price or rate of foreign exchange, which expresses itself concretely in the dollar prices of claims to all the various currencies. The command of dollars over foreign moneys is thus determined. We have here a second measure of the value (purchasing power) of our money—how much foreign money will it buy?

The chief elements in our demand for and supply of foreign exchange may profitably be enumerated:

Demand	Supply
1. Imports of merchandise	1. Exports of merchandise
2. Imports of gold and silver	2. Exports of gold and silver
3. Payments to foreign ships for freight and passenger service	3. Receipts of American ships from foreigners only
4. American tourist expenditures abroad	4. Foreign tourist expenditures here
5. Banking and all other financial charges payable to foreigners	5. Banking and other financial charges receivable from foreigners
6. Interest and dividends due on American securities held abroad	6. Interest and dividends due on foreign securities held here
7. New purchases of foreign securities	7. New sale of American securities abroad
8. Repurchase and redemption of American securities held abroad	8. Repurchase and redemption of foreign securities held here
9. Transfer of American balances to foreign banks	9. Transfer of foreign balances to American banks

The total demand for and supply of foreign exchange on any day, it thus appears, arises from a wide variety of commercial and financial transactions. Some of the claims are matters of the day's buying and selling; some of them grow out of contracts made perhaps decades earlier; some of them depend on long-time calculations of the future, leading to new investments. Some of them arise immediately out of actual sales of goods, some out of operations purely financial, some out of speculation on the future course of the exchanges themselves. Mostly they are the outgrowth of private business, but sometimes government financial requirements temporarily take a dominant place. In times of war government demands may conceivably become the only demands. However the claims arise, they are alike in calling for foreign money, and what is being bought and sold in the foreign-exchange market is claims to such money.

The exchange rate or price, like other competitive prices, is the one that will bring demand and supply to equilibrium. That rate will fluctuate with every influence affecting any one of the categories of demand and supply just enumerated. Today sterling exchange (a claim to a pound) may be selling in New York for $4.06. Tomorrow heavy wheat exports from this country, creating many such claims, may drive their price down to $4.04. Next day the New York bankers may offer to American investors $5,000,000 of new securities of a British gold-mining concern. The investors' demand for sterling exchange with which to pay for them may drive up the rate to $4.07.

The Gold Standard and the Foreign Exchange

If its record in stabilizing domestic prices warrants but qualified commendation, how did the gold standard work in international relations? It is here that its great triumphs were obtained. The movement of gold into and out of

gold-standard countries, it will be recalled, was unrestricted. The citizen might import or export it at will. Hence, except for the cost of transportation, gold was bound to be worth as much in one country as in another. Otherwise, of course, it would have moved to the country of higher value. Since gold was thus kept at the same value in all gold-standard countries, the value of the money unit of one country was definitely tied to the value of that of another by the ratio of the amounts of gold equivalent to the respective units. For example, we put 23.22 grains of gold into our gold dollar, and Great Britain put 113 grains of gold into its gold pound, approximately 4.867 times as much as was contained in our gold dollar. The so-called par of exchange was thus £1 = $4.867.

Under such conditions the right to a pound inevitably cost an American approximately $4.867, and inevitably yielded him the same amount. The reason is clear enough. During the third of a century preceding the first World War the entire cost of shipping 113 grains of gold in either direction between London and New York was usually about two cents. If an American, therefore, had bought goods in London for one pound, he would not pay more than $4.887 for a bill of exchange for that amount, because he could buy 113 grains of gold in New York for $4.867, ship them to London for two cents, and get them coined into a pound, with which he could pay his bill.[1] Similarly, an American exporter who had sold goods in London for a pound would never take less than $4.847 for the bill of exchange he had created in the process. If the rate of exchange fell below that figure, he would take payment in London, buy 113 grains of gold with the pound received, ship it to New York at a cost of two cents, and have it coined into $4.867. Below this figure, that is to say, it became profitable to import gold. At the corresponding high figure it became profitable to export the actual metal. When the sterling exchange rate rose to $4.887, gold automatically flowed out of New York. At $4.847 it automatically flowed in. These were the so-called export and import points of sterling exchange, commonly known as the gold points. Of course there were corresponding points for the money of all gold-standard countries.

Domestic Prices and the Rate of Exchange

If the exchange rate, however, actually moved with domestic price movements in the countries involved, how were the fluctuations under the gold standard confined within these narrow limits? Supposing that the ratio of purchasing power of dollars and pounds at a certain time corresponds with

[1]Of course the actual process of gold purchase and shipment did not take place in the individual case.

the mint par, £1 will buy what $4.867 will buy. Now let prices in the United States rise, for whatever reason, by 2 per cent, while British prices remain unchanged. What formerly cost $4.867 here now costs $4.964. The ratio of purchasing power has changed to £1 = $4.964, but the exchange rate, we assume, is unchanged. What will happen? This has become an uncommonly profitable market for British goods, because the $4.964 that a British merchant now gets for his goods yields him not the pound he formerly got but £1 0s. 5d., since the exchange rate has not changed. At the same time, for the opposite reason, the British market becomes unprofitable to American exporters. The demand for sterling exchange here will therefore rise with the expansion of imports, while the supply will fall with the shrinkage of exports, and the exchange rate will start up toward the new purchasing-power ratio. As soon as the price reaches $4.887, however, nobody will buy exchange any longer. Instead, gold will flow to England in payment.

Now two important changes will occur. Under the gold standard the banks have to be prepared to meet all demands for cash in gold, and therefore are supposed to keep gold reserves against that possible demand. As gold exports go on, the gold reserves of American banks are drawn down, and the banks therefore are less willing to make loans. Businessmen, unable to borrow as freely as usual, will buy less generously than they have been doing, and prices here will ease off. In Great Britain, on the other hand, as the gold imports flow into bank reserves, the banks will lend more freely, and prices will tend to rise. The ratio of purchasing-power of dollars and pounds will move back toward the old level. As long as it remains above the gold export point (£1 = $4.887) of the sterling exchange rate, however, so long will gold continue to flow out from this country, and so long will the two-sided process of price adjustment above suggested go on. It will finally bring the purchasing power of the pound down to $4.887 at most. Such is the theoretical operation of the gold standard in the field of international relations. The exchange rate remains comparatively stable; the domestic price levels fluctuate.

What was supposed to happen, then, and what to a marked degree actually did happen, was that because of the effect of the international gold flow on prices the purchasing-power of the pound sterling was substantially pegged in the neighborhood of $4.867, that of the prewar franc at about 20 cents, of the mark at about 24 cents, and so on through all the gold currencies. Of course no one conversant with the facts would think of saying that this end was exactly attained, even in respect to those prices to which it applies, namely, the prices of goods that might conceivably be exported and imported. Nor would anyone assert that the process worked with the simplicity and exactness above suggested. Among other things, important developments took place

in banking policy that to no small extent often neutralized the supposedly "normal" results of gold flow on prices. Central banks managed to control that flow somewhat by manipulating their discount rates. Moreover, they learned the trick of "sterilizing" gold imports, as it was called. Instead of extending credit more freely as gold flowed in, they occasionally refused to do so, sometimes for entirely good reasons, and thus prevented the rise of prices that was supposed to occur. Thus gold movements by no means always produced the effects on prices required by our analysis.

The Services of the Gold Standard

At this point we may with profit consider the significance of what has been said in the preceding pages. The problem of regulating the value of money, no matter what the method, carries the double aspect of preventing undue changes in the price level and also preventing undue movements in the foreign-exchange rates. It was stated on page 397 that, in general, under the gold standard the internal and the external purchasing power of the dollar move together. It should be noted, however, that this was by no means always true. Indeed, changes in the two expressions of the value of money rarely kept even pace, even in the years when the gold standard was working most successfully. A rise in the domestic price level might be accompanied by a more or less rapid fall in the exchange value of the money unit involved. Our examination of the system left small reason for faith in the gold standard as a stabilizer of the domestic price level, but the stabilization of exchange rates seemed theoretically possible if there were no interferences with the movements of gold and the effect of the gold flow on domestic price levels.

The theoretical analysis is close enough to the facts of the prewar situation to indicate the place of central importance that the gold standard had come to occupy in the business affairs of most of the world before 1914 and to suggest the great services that it did in fact perform. By keeping exchange rates stable it did, through the operation of the gold flow, help to maintain national price levels in more or less determinate relations. Those relations depended basically on the relative weights of the gold equivalents of the various money units. Insofar as this result was actually effected, the gold standard not only facilitated exchanges between different countries but helped to lessen fluctuations in the value of the money of a particular country arising from causes peculiar to that country. If prices in a single country moved considerably, the power of its money unit to buy foreign claims moved in the appropriate direction beyond the gold points, bringing in turn the corresponding gold flow and thus the corrective adjustment of prices. Fluctuations in the value of the money

of a single country were thus limited by tying its prices, in a sense, to the prices in all other gold-standard countries.

Thus all the gold-standard countries came to be joined in what was practically a single money system, since the value of each money was effectively tied to that of all other moneys in relations substantially determined by the weight of gold equivalent to the respective money units. So far as money was concerned, the whole gold-standard world thus became united into a single trade-and-investment area, however much such union was otherwise prevented by tariffs and other nationalistic barriers. The resulting facilitation of international trade and of capital flow to areas under diverse flags will be readily appreciated. If an American exporter sold cotton to a German mill for 100,000 marks, he always knew that he could get about $24,000 for his draft. If an American railroad borrowed £1,000,000 in England to build a hundred miles of railroad in Nebraska, it knew that twenty-five years later, when the bond fell due, it could pay the debt with about $4,867,000. Such internationalization of trade and investment made strongly for the growth of the world's wealth during the half-century preceding the outbreak of the first World War.

The beauty of it all seemed to be its purely automatic character. It was the result of no official management, no exercise of authoritative judgment or governmental decision. It required no special intelligence and made no unusual demands on human character. The result, for good or bad, was supposed to be the outcome of the uncontrolled action of gold-miners and businessmen and bankers, each doing his best to make what profit he could. During the fifty years preceding the first world conflict there grew up in business and financial circles an almost superstitious reverence for the gold standard and the supposed excellence of its operation. At a time when government control the world over was more and more invading the business field, it was fiercely and dogmatically insisted that the holy of holies of the money standard should not be profaned by the hand of the government.

CHAPTER TWENTY-TWO

Monetary History and Two World Wars

EVEN BEFORE the first World War both banks and governments were seriously and increasingly interfering with the supposedly automatic working of the gold standard. As the power of central banks grew, the relations of such banks with governments unavoidably became closer. These banks, as already indicated, learned how to control the gold flow to a limited extent and, yet more important, learned how to prevent the gold flow from exercising its normal influence on prices. Having learned these lessons, they were in position to use their powers to serve the ends of governments, which by no means always had as their primary purpose the promotion of international trade through the unimpaired maintenance of an international money system. Consequently, even before 1914 the working of the gold standard was more and more compromised by certain practices of monetary management. Control by government and central banks was beginning to be incorporated into the gold-standard system, which was supposed to have as its chief virtue the complete absence of such control.

The magnitude of government financial operations between 1914 and 1918 made it well-nigh impossible to maintain gold payments. Thus, at the very time when restraints on prices were most imperatively needed, whatever restraint the gold standard might have exercised was withdrawn. Prices continued to rise even after the end of the war, reaching their most disastrous heights in Germany, where inflation culminated in 1923 in a currency which was literally worthless. It was not strange that under the circumstances everyone was eager for a return to the stability and certainty of the old days. However, if governments were to return to the gold standard of prewar days, they must be prepared to redeem in gold on demand the greatly increased amounts of money that had been created during the war. This they could not do unless they reduced the amounts of money outstanding or else secured larger gold stocks. If they tried the former, prices would be driven down, business would collapse, people could not pay taxes, and governments could not pay interest on their debts. The latter was made impossible by the fact that during the war a large part of their gold had come to this country, and, short of a magic wand, nothing would bring it back. When they returned to

gold, most of them adopted a smaller gold unit than their prewar unit or imposed restrictions on the use and movements of gold which were not a part of the earlier gold standard.

In the new systems two changes were made which modified the character of the standard; the right to free coinage was withdrawn, and likewise the right to the redemption of small amounts of money in gold. Since gold coins were not to be put into circulation, the minting of such coins became simply an unnecessary expense. In place of maintaining free coinage, accordingly, the government agreed to buy at a fixed price any amount of gold offered. Secondly, in place of the old redemption privilege was substituted the right to redeem other kinds of money (in considerable amounts only) in gold bullion. Thus the principle of redeemability of all money in gold at a fixed rate was preserved without the expense of coinage. By these means it was expected to maintain the value of the money unit equal to that of a fixed weight of gold just as effectively as by free coinage. These changes made no important alteration in the essentials of the gold standard and were in no way responsible for the developments that led to a fresh abandonment of that standard by various nations during the years from 1929, when Argentina gave up gold, until 1936, when France ceased the attempt to retain the standard. To understand why attempts at re-establishment of genuine gold standards broke down, we need to trace these developments briefly, giving special attention to Great Britain.

When the armistice was signed we were in possession of a large proportion of the world's gold. In addition, the entire world was heavily in debt to us, so that great sums were due to us annually on interest account, while our industries were geared to a position in which we steadily sent abroad a materially larger value of goods than we imported. Without a violent readjustment of prices to enable European industries to surmount the tariff hurdles that we continued to raise, there was therefore no way in which European nations could regain gold. They needed the gold and did not have it; we had it and did not need it. The increased control of exports and imports by all governments and the increase of tariffs that followed the war made the movement of goods less free than it had been before that struggle, and thus increased the need for gold movements. Meanwhile the demand for payment of reparations and war debts among governments, economically unwise (as it was shown to be by clear-sighted students at the time) but nevertheless politically inevitable, served yet further to bedevil an already impossible financial situation. The wonder is not that the financial machinery worked as badly as it did but that it worked at all. The United States alone among the great powers was in a position to maintain the old gold standard; but if one country

alone is on gold, that metal cannot perform its old-time function of facilitating international trade by keeping the exchanges stable. In an impregnable financial position, and with nearly half the world's gold in our bank vaults, we had no problem of maintaining full redeemability, but we stood alone.

Restoration of the Gold Standard

Great Britain, emerging from the war as she had entered it, in the strongest financial position of all the European states, nonetheless faced a situation entirely different from ours. The British, however, had stronger reasons than any other people in the world for desiring a return to the gold standard. London had been the financial center of the world, and Great Britain had been the center of the system of world trade built up on the basis of the gold standard. Both government and people were eager to return to the gold standard, and with the modifications already suggested this was accomplished in 1925, at the old parity of 113 grains of gold to the pound, at which £1 equaled $4.867. But English prices were too high to maintain an export trade at this parity. Americans, for instance, with claims on English pounds would find it more profitable to buy gold in England with their pounds, bring the gold to the United States, and buy goods with it. British export trades were in continued depression, and the Bank of England had difficulty in maintaining gold reserves. The automatic remedy for this is an outward movement of gold until British prices fall and ours respond to a gold inflow by rising. This did not happen. Gold failed to move in such a way as to adjust prices. When it did flow from country to country it went largely as a result of short-time borrowing among countries. This added to the instability of the situation. The mechanism had ceased to function.

France avoided the English mistake by returning in 1928 to a smaller gold unit. The franc was cut from 4.48 grains to .91 grains. This was so low that a dollar or a pound would buy a great many francs, and these francs would buy more goods in France than the dollar or the pound would have bought at home. French export trade flourished, and gold tended to move from the Bank of England to the Bank of France.

Germany, after a period of inflation which practically reduced the value of the mark to zero, established a new gold standard, but with rigid controls over gold movements and foreign exchanges. It is not possible here to enter upon the difficulties created by the existence of war debts and reparation claims, difficulties which in part were mitigated before 1929 by large American loans to Germany. When those loans ceased early in 1929, the Germans perforce ceased foreign payments on reparations as well as interest and dividend payments.

Abandonment of the Gold Standard

Changes in the world price structure had lowered the prices of raw materials and plunged those countries which export raw materials and buy manufactured goods into great difficulties. Its gold supply exhausted, Argentina, as we have said, went off the gold standard in 1929. General depression set in. European prices fell. Central banks all over the world were guarding their gold reserves. There began in the spring of 1931 what has been described as a series of national runs on banks. The Austrian central bank was unable to pay its obligations in Berlin; the German banks, to meet theirs in London. The Bank of England, with debts due to it which it could not collect and obligations which it could not meet, applied to the government for permission to suspend redemptions in gold. There was no alternative to granting the permission. Thus, in September, 1931, six years after the return to the gold standard, Great Britain gave it up. Her example was followed by that important part of the world, including the British Dominions and Scandinavia, whose trading relations were predominantly with Great Britain and whose banking center was London. Nearly half the trading world thus came to constitute the "sterling bloc." The associated countries were primarily concerned to keep their moneys in stable relations with the pound sterling instead of with the surviving gold currencies, chief of which was the French franc. In 1936 the "gold bloc"—France and a few of the smaller countries closely tied to French trade—gave up the struggle to maintain a gold reserve, and the gold standard, so far as Europe was concerned, ceased to be. From the autumn of 1937 until August, 1938, the movement of gold was comparatively slight, but a heavy outward movement began in September, 1938, and continued through the summer of 1940. This, for the most part, represented a loss of gold to the central reserves of England, France, Holland, Switzerland, and Sweden. Great Britain, to conserve her resources for the necessities of war, in 1939 centralized all dealings in foreign exchange under the supervision of the Bank of England and required all citizens to sell their claims to foreign currencies to the government.

Monetary Changes in the United States

In this country equally momentous changes in our monetary system were coming about. By reason of the relative unimportance of the foreign as compared with the domestic trade of the United States the external value of the dollar is of small significance in comparison with its internal value. Nevertheless, fluctuations in exchange rates have serious consequences for the whole course of foreign trade and investment, and therefore our government has

concerned itself not only to keep the internal purchasing power of the dollar stable but also, if possible, to maintain stability in the rates of foreign exchange. At the end of 1932 and the beginning of 1933, as a result of persistent bank failures and general uneasiness, there occurred an epidemic of gold hoarding that threatened disastrous results. To prevent wholesale bank failures, a series of state "bank holidays" was followed in March, 1933, by the temporary closing of all banks, to give time to discover which among them should be aided and which were so weak that they must be liquidated. This breathing space also gave opportunity for a money program to be formulated. By a series of laws, and of executive orders made under emergency powers, the banks were prohibited from paying out gold; the export of gold was forbidden except by government license; the Treasury ceased gold payments; all persons were required to surrender gold coin, bullion, and gold certificates to the Treasury in return for other kinds of money; and the gold clause in private and public contracts, which required payment of obligations in gold, was invalidated. A comparison of these prohibitions with the characteristics of the gold standard as outlined in Chapter Twenty-one makes it clear how tenuous was the claim of the United States to be on a gold standard, once these prohibitions went into effect.

The second step in monetary reorganization looked toward lowering the purchasing power of our money—in other words, raising prices. Their downward movement had continued steadily since 1929, the index number of wholesale prices registering 61 in January, 1933. The refusal to allow free export of gold, or to redeem money in gold within the country, it was expected would cause the dollar to fall in foreign exchange and in domestic purchasing power. Both these results followed, though the decline in dollar value was neither rapid nor extreme. If the student, at this point puzzled, asks why it was desirable for the value of the dollar to fall, he can answer his own question by recalling that if pounds sterling could buy more dollars, the incentive to foreigners to buy goods in this country would be greater, provided prices here did not rise as much as dollar claims fell in value. Increased exports would tend to start a gold movement in this direction. As to the desirability of raising domestic prices, or at least of checking their fall, we need only remember the disadvantages that come with a rapidly falling price level. After some months, in which price levels and exchanges were allowed to adjust themselves, the Congress passed the Gold Reserve Act, which the President signed on January 30, 1934. This, with a Presidential proclamation issued under it the next day, set up the monetary arrangements which, with some modification, still prevail. The government took title to all gold coin and bullion in the Federal reserve banks, paying the banks in gold certificates at the rate of one dollar

for 25.8 grains of gold. The certificates may be used as reserves but cannot be put into circulation. All gold coins were to be converted into bullion. The money was not redeemable in gold except as permitted by the Secretary of the Treasury, who might buy and sell gold at home or abroad, paying for it with government bonds, coin, or currency, as he deemed to be in the public interest. Finally, an Exchange Stabilization Fund, after the British model, was set up. To this we shall return later.

The President's proclamation mentioned above fixed the new gold content of the dollar at $15\frac{5}{21}$ grains, nine-tenths fine, which was 59.06 per cent of the old weight. Gold with the monetary value of a dollar before the proclamation thus became worth nearly $1.70 after it. The gold reserve of the country, valued at about 4.2 billion dollars on January 30, was valued at about 7 billions on January 31. Two billion dollars of the "profit" resulting from the change was set aside to constitute the Exchange Stabilization Fund, under the control of the Secretary of the Treasury, who, with the approval of the President, has power to buy and sell gold and foreign exchange for the purpose of stabilizing the dollar in foreign-exchange dealings. The Treasury announced its willingness to buy any gold offered it at $35 an ounce, a price which has been maintained despite the heavy movement of gold to this country which ensued.

To sum up what has been said to this point, none of our money is redeemable in gold; no citizen and no bank can hold gold, except of course for use in the arts; the import and export of gold are controlled by the Treasury, which buys all gold offered at $35 an ounce. This is the system we termed the ghost of the gold standard. We may call it a managed gold standard, provided we remember that every essential of the old gold standard has disappeared. The management of our money at home is exercised by the Board of Governors of the Federal Reserve System and the Treasury; the management directed toward its external value before the second World War was the function of the Treasury, working through the Exchange Stabilization Fund. Since the war, international monetary management is accomplished through the institutions set up under the Bretton Woods Agreement, to be described later.

Management of the Exchange Rate

Until the summer of 1940 our Stabilization Fund worked closely with a similar British account to maintain stable foreign-exchange rates. When there was in either country an excess of foreign claims, its fund bought; when there was a shortage, the fund sold. If the British fund held an excess of dollar claims, it could dispose of them by buying gold in America, which could be earmarked for its owner and left here to be transformed again into dollar claims if it be-

came desirable. While gold was demonetized for the domestic economy, it thus served as the basis of the work of the two exchange funds.

No management, however skillful, could in the world of 1940 and 1941 solve the most troublesome monetary problem, that of the continuous movement of gold to this country. By the end of 1941 the gold holdings of the United States were some 22 billion dollars, more than 70 per cent of the gold of the world, and there seemed to be no way of checking the flow. Reading the statement that the Treasury buys all gold that is offered, the student might thoughtlessly say, "Why not simply stop buying?" but if he has understood what has preceded he will realize that to stop buying gold implies that dollars will no longer be sold, for a purchase of gold is a sale of dollars. If dollars were no longer available, we destroyed whatever foreign markets we still possessed and virtually forced world trade onto a barter basis. Though the menace to our money system from the inward flow of gold was recognized, there seemed nothing which the United States could do to check it which would not do more harm than the gold flow itself.

Management of Internal Money

The suggestion that the inflow of gold may do us injury calls for further consideration of the relation of the Treasury to our money mechanism. Gold, as we know, comes to this country largely because foreigners have debts to pay here, or because they wish to invest in American securities or to make short-term loans, and there are not sufficient dollar claims available for them to carry out their desires without gold shipments. These shipments arrive as the property of individual banks. Suppose the Irving Trust Company receives a large gold shipment. Since no bank is allowed to retain gold, it must be sold to the Treasury. In return for it the Irving Trust Company receives a check on the United States Treasury which it probably deposits with its Federal reserve bank. That bank, in turn, presents the check to the Treasury and receives gold certificates. The Treasury has the gold; the Federal reserve bank has a larger supply of gold certificates; the Irving Trust Company has a larger deposit in the reserve bank, which is another way of saying that it has a larger reserve. This is the method by which a large part of the excess reserves to which we have already referred was built up. As we know, such excess makes possible a rapid credit expansion which may easily lead to a runaway inflation. The remedy, insofar as there is a remedy, lies in discovering some way to sterilize the gold, that is, prevent it from becoming a source of increased credit. One effort in this direction was made when for a time the Treasury paid for the gold by issue not of gold certificates but of government

bonds. While government bonds may be used by the member banks as a means of increasing their reserves, they cannot be used by reserve banks as part of the 35 per cent reserve which they are obliged to carry against deposits. Therefore they do not lend themselves quite so directly to the process of expansion as gold certificates. The difference, however, is only one of degree.

Entirely aside from the handling of gold, the action of the Treasury in issuing securities (borrowing money) is of great importance to our money arrangements. We know that government bonds constitute a considerable part of bank assets today and that these securities may become the basis for member-bank borrowing, or increases in member-bank reserves. Any action on the part of the Treasury which either directly or indirectly affects the power of the banks to expand or contract credit affects our money supply and may affect both prices and production. Consideration of the management of our money, therefore, must not be restricted to the action of our banking system but must include the policy of the Federal Treasury.

Silver Policy

In discussing Treasury policy we have thus far dealt only with Federal security issues and gold stocks, but silver must not be ignored. For thirty years after the ending of the Civil War there was pressure on the part of those who wanted higher prices to have silver used to that end in our money system. This culminated in the political campaign of 1896 on the issue of the free coinage of silver at the ratio of 16 grains of silver to 1 of gold. The defeat of the proposal did not put an end to efforts to increase the quantity of money by "doing something for silver," efforts aided by the disproportionate representation in the Senate of the small population of the silver-mining states. In the period of monetary irregularity of 1933–1934 such efforts resulted in legislation declaring it to be the policy of the United States to increase the proportion of silver to gold in its money stocks to one dollar of silver to three of gold, and instructing the Secretary of the Treasury to buy silver (at not more than the nominal monetary value of $1.293 per fine ounce)[1] until that proportion should be reached. Further, the Secretary was to issue silver certificates, which were to be full legal tender, against all silver so bought. Acting under authority of the legislation, the President, by executive order of August 9, 1934, required all stocks of silver in the country to be turned over to the Treasury, and all newly mined silver must now follow the same

[1]The "standard" silver dollar, which has never lost its legal existence, although it has had no practical importance during the present century, contains 371.25 grains of pure silver. At this rate an ounce of silver is worth $1.293.

road.[2] During the two fiscal years ending June 30, 1936, the government acquired more than a billion ounces of silver at an average cost of 60 cents an ounce, and the silver certificates outstanding were increased by 640 million dollars.

The practical results of these operations were, first, a sharp increase in the price of silver, bringing increased profits to silver-miners and serious difficulties to the Chinese, who were still on a silver standard; secondly, the acquisition by the Treasury of a large additional stock of useless silver at a cost up to that time of 628 millions; and, thirdly, the substitution in general circulation of that value of silver certificates for a corresponding amount of Federal reserve notes that otherwise would have been issued as needed. During the year 1941 the difference between the monetary value of the silver certificates issued and the cost of the silver which they represented was over 67 million dollars, and the annual average of this profit, or seigniorage, since 1937 has been about 40 million dollars. At the end of 1945 the Treasury held approximately 1.8 billion dollars' worth of silver bullion. By comparison with the problem presented by our gold holdings, the matter is of minor importance, but on a smaller scale the silver-buying policy works to swell excess reserves in just the same way that the gold-buying policy does. The silver certificates, however, go into actual hand-to-hand circulation, while the gold certificates lie unused in the vaults of the Federal reserve banks.

The Objectives of Monetary Management

Clearly there is little of an automatic character in our present money arrangements. This is not a situation created overnight in 1933 or 1934 but one which has been developing since 1913. The late Lord Keynes once described the Federal Reserve System as the greatest experiment in managed money ever attempted. A review of its machinery should convince the student that from its inception we ceased to rely on the working of the gold standard alone to provide a satisfactory internal money. Once the automatic character of our money or of any money system gives way to management, it becomes of major importance to determine what shall be the goals of management.

In Chapter Eighteen the statement was made that the function of money was to facilitate trade. The objective of management, it would then seem, must be to provide the best money for this purpose. But this statement is much too vague and general to provide a useful guide in determining specific policies. It can be made more concrete and thereby more useful. We are in

[2]We state only the bare essentials of the most important silver legislation of the period.

general agreement that we do not want a rapidly fluctuating price level. A drastic downward movement of prices brings hardships to debtors and to producers, especially to the producers of raw materials; a rapid upward movement injures creditors and all those who rely on fixed incomes for livelihood. Money which is not subject to such fluctuations of purchasing power is highly desirable. We can go further. The Federal Reserve Board, regarding harmful fluctuations in the value of money (changing price levels) as a symptom of an evil, not the evil itself, states as its goal such flow of money as will bring steady production. If this can be accomplished, prices may fall gradually, as efficiency of production increases, without working harm to the economy. The attainment of regular production would accomplish reasonably stable price levels as a by-product, as it were. A review of our production since the middle twenties, when the board announced this as the goal of its management, does not suggest a great measure of success. There is no conflict between these two objectives. The same cannot always be said of management to bring domestic stability and stable exchange rates. There are times when one of these ends is obtained by sacrificing the other. To devise a means of stabilizing exchanges in the absence of the gold standard, without putting the domestic price level in jeopardy, was the most important international monetary problem demanding attention after the war. The answer was the Bretton Woods Agreement.

The Bretton Woods Agreement

The troubled years between the first and second World Wars made it abundantly clear that a return to the gold standard was not sufficient to reestablish international trade and investment on any sure foundation. They also made it clear that stable conditions could not be achieved if each country managed its own finances with little attention to the effect of its actions on the outside world. The international gold standard, when it worked smoothly, fostered foreign trade, but it sometimes achieved its ends by sacrificing domestic stability. A managed currency, working smoothly, might foster domestic stability, but sometimes at the expense of foreign relations. The conflict between two goals, both desirable, was brought into sharp relief during the years of depression. Country after country, giving up the idea of stable exchanges, went off the gold standard in order to isolate and manage its own currency. The results convinced the world that some machinery of co-operation must be found which would secure the virtues of both systems without their glaring defects.

After much preliminary study and discussion, representatives of forty-four

countries, meeting in 1944, formulated the Bretton Woods Agreement, which was formally adopted before the end of 1945. This agreement determined the monetary arrangements under which foreign trade and investment are now carried on. Under it two institutions were set up: an International Monetary Fund and an International Bank for Reconstruction and Development. The Fund, $8,800,000,000 in amount, is created by contributions from member countries according to specific quotas. Of each quota 25 per cent must be paid in gold. If that is not practicable, a minimum of 10 per cent of the existing gold stock of the country will be accepted. The remainder of each quota consists of currency of the member country, probably in the form of deposits in its central bank. The quota of the United States is $2,750,000,000; that of Great Britain, $1,300,000,000; that of Russia, $1,200,000,000. The Board of Governors of the Fund consists of one representative from each member country, with voting power in proportion to the quotas. Under this board twelve executive directors, five from countries with the five largest quotas, and seven elected by the other member countries, manage the business of the Fund.

All member countries agree to define their monetary unit in terms of gold with all possible speed, and thereafter, with specified exceptions, to maintain the gold parity thus established. Lest the provision for fixed parity create the same kind of rigidities which sometimes wrought havoc under the former gold standard, any country may, after giving notice to the Fund, make a change of 10 per cent in the gold definition of its unit. A further change of 10 per cent is possible, provided the administrators of the Fund approve.

How does the Fund work? It is first to be understood that the usual mechanism of foreign trade continues to function. Bills of exchange are bought and sold just as they were before the creation of the new machinery. The Fund operates with net balances, and is invoked only when there is a shortage of some currency. Suppose Norway wishes to import American goods but finds that there are not enough dollar claims available in the country. From the Fund, Norway buys (or borrows) dollars, paying with its own currency. The amount which may be borrowed is limited by the amount of Norway's quota, and only one fourth of this quota may be borrowed in any one year. Payment must be made as soon as the borrowing country is able to build up its resources. The absence of dollar claims has not cut off our exports to Norway. Nor has it forced Norway to export gold and experience deflation, to impose exchange controls, to devaluate her currency, or to exert injurious pressure on her trade. Foreign trade can continue without fear of sudden and unpredictable stoppages because the means of payment has been cut off. If the scarcity of dollars is not confined to Norway but is widespread, the Fund

may borrow dollars from the United States, may require the United States to sell dollars for gold, or may declare dollars to be scarce currency and ration them among the member countries. What is chiefly provided here is time for a country to remedy its economic difficulties without sudden and violent domestic adjustments or dangerous restrictions to its foreign trade.

The second institution established by the Bretton Woods Agreement, the International Bank for Reconstruction and Development, has no direct concern with foreign trade and stable exchange rates, but relates to long-term foreign investment. In the era of the twenties much money was lent to foreign countries at high interest rates and for unproductive purposes. A repetition of such lending the Bank is intended to prevent. Out of its own funds or from funds borrowed from private investors it may lend to needy countries for productive purposes only. It may also guarantee loans made for such purposes by private institutions. Productive purposes may be either the reconstruction of devastated countries or the development of the resources of undeveloped countries. Such loans and guarantees must not exceed the sum of the capital, the surplus, and the reserves of the Bank. Its present capital is to be 10 billion dollars, of which the United States contributes 3,175 million. Of its loan fund but 20 per cent is to be used for direct loans; 80 per cent is the guarantee fund to encourage private lending. In no way does the Bank interfere with the present working of the capital market, unless to exert a restraining influence on interest rates and on conditions of lending and to guarantee the safety of approved loans be regarded as interference. Management rests in the hands of a Board of Governors elected as are the Governors of the Fund. Under them a President and a body of Executive Directors carry on the work of the Bank.

Two questions present themselves at once: What will the Bank contribute to the future income of the world, and what is the relation of the Bank to the Fund? Perhaps in the answer to the second will be found the answer to the first. The Fund can be used only to pay for current transactions. Its purpose is to promote exchange stability and provide an orderly procedure for change when change is necessary. This prevents the disruption brought about by sudden changes; but if a country's difficulties are deep-seated economic maladjustments, temporary aid granted by the Fund is futile. Long-term credits, employed to develop its resources or restore its productive capacity, may improve the international balance of a country in a way which the Fund cannot do. Such credits the Bank can provide. The success of the two agencies in the long run can be achieved only if the nations hold firmly to the basic fact that goods and services must be paid for by goods and services. No country can continue to buy from the world without something to offer in return;

no country can continue to sell without taking something in return. Monetary management can facilitate trade only if hampering restrictions on trade itself are removed. What is to be expected from the new machinery which could not have been accomplished by the restoration of the gold standard? It is hoped that it will provide for necessary adjustments in the foreign-exchange rates in more orderly and less competitive fashion, that short-term lending — a source of great mischief in the period between the two wars — will be brought under control, and that long-time loans may be directed to productive purposes.

It is safe to say that no informed student believes it possible to return to the golden age existing before 1914. Nor does any informed student wish a return of the nationalistic controls and the international chaos of the thirties. Sound machinery for international economic relations is a necessary part of a peaceful and prosperous world. The Fund and the Bank promise to be useful parts of that machinery. They cannot be the whole of it.

CHAPTER TWENTY-THREE

International Economic Relations

THE INTERNATIONAL economic relations first thought of are trade and investment. By international or foreign trade and investment we mean simply trade and investment carried across national borders. In wartime this trade is chiefly government trade, but in periods of peace, while there is some trading on government account, most foreign trade, like most domestic trade, is carried on by private individuals, and the student must not be misled by references to England's trade with France or the trade of the United States with Argentina. The trade referred to is usually that of private importers and exporters in the respective countries, not that of the governments themselves. Division of labor and specialization, as we know, make exchange between individuals necessary; geographical specialization makes trade between regions necessary. Detroit cars are sold all over the United States, while Detroit buys flour made in Minneapolis, oranges raised in Florida, and shoes manufactured in St. Louis. The advantages of such exchange are seldom questioned, nor does the process itself call for extended exposition. Foreign trade, though its processes and relations are more complex than those of domestic trade, and its advantages are more frequently questioned, is actually only an extension of the exchange attendant on geographical specialization. Despite its similarity to domestic exchange, however, there are reasons why it calls for special treatment.

The first set of distinctive problems is concerned with the method of payment. Detroit and Florida use the same money system. For a Florida dealer to pay for cars bought in Detroit, banking arrangements such as we have described must be invoked, but there is no need to turn one money into another. However, when a New York importer buys goods in London, he must pay his bill in English money. He is therefore plunged into the intricacies of foreign exchange, since the rate of exchange affects the price he is really paying in his own money for the foreign goods he buys. Low prices of foreign goods combined with a high rate of exchange may in reality mean high prices. As was pointed out in Chapter Twenty-one, many influences besides the trade in material goods affect the rate of exchange and are affected by it, one of the most important being foreign investments. Foreign trade cannot be considered without taking account of all the influences affecting the rate of exchange.

A second reason why foreign trade calls for special treatment is to be found in the obstacles to free movement of capital and labor, as well as of finished goods, from country to country. We assume in examining trade within a country that the factors of production, aside from immobile natural resources, move to the locality and to the industry in which they are most productive. To be sure, the freedom of such movement often meets with interference within the country; between countries movement is hampered to a much greater degree. Love of one's own home or native soil, fear of a strange land, the barrier imposed by a foreign tongue, check the passage of labor from country to country. While capital movements, that is, foreign investment, are not hindered by such sentiments as these, lack of knowledge or fear of risk may act as a considerable deterrent to mobility. In addition, these movements, as well as the trade in goods, are often interfered with by government action. The close relation of international trade to government policies is an additional reason why its problems are not identical with those of domestic exchange. Foreign trade has always been a particular concern of governments, and for three reasons: first, because it offers an obvious source of revenue easily estimated and collected; secondly, because traders frequently involve their countries in difficulties with other countries; and, thirdly, because there has been a stubborn conviction that though it may be advantageous to let Detroit make automobiles for Florida, it cannot be advantageous to let similar specialization transcend national boundaries, and therefore it is the duty of governments to prevent it. This conviction and the reasoning underlying it, as well as that used in opposing it, belong to the body of economic doctrine. Therefore, in addition to all the considerations affecting domestic trade, and the complex of influences involved in exchange rates, the study of international trade must in unusual degree take account of the policies and practices of governments and the theoretical considerations which underlie those policies and practices.

The Balance of Payments

The machinery by which payments are made between countries we have already considered. We can most readily understand its place in our present study by discussing first the international balance of payments. Such a balance must be inexorably maintained. No government activity and no government control of trade and finance, no matter how rigid, can alter the necessity for meeting claims of all kinds owed to persons or organizations beyond national borders, and of meeting their claims by offers of values that they are willing to accept. In both the creation and the payment of such claims government and private activities are indistinguishably mingled. An importer here buys

French cloth; an exporter ships grain in a British ship, consequently owing a freight bill to a British shipowner; an American spends a summer abroad; a New York municipality redeems a series of bonds issued forty years ago, some of which during all that period have remained in the safe-deposit boxes of thrifty Dutch investors; an English bank, because of the higher interest rates here, desires to lend money in America or to repay loans made to it by an American bank; French investors wish to buy American securities, or to buy title to American money rather than their own. In every instance, be the transaction private or governmental, be it concerned with the purchase of goods or the lending of money, means of payment must be provided and the ordinary method is by bills of foreign exchange. On one side of our international balance sheet are those items which call for payments outward, on the other those which call for payments inward; as we already know they necessitate corresponding foreign transactions.[1] Precisely the same holds true of Russia, France, and every other country, no matter how great a part its government takes in its economic life, or how strictly that government controls its foreign trade and its dealings in foreign exchange. If a country, including both its governmental agencies and its private business concerns, be thought of (for purposes of understanding only) as a single financial unit, then the two sides of its international balance sheet must be equal. Credits must equal debits. A sale of American goods in England, for example, creates an American claim to payment which must be met by the creation of a corresponding foreign claim to payment from America. Every financial transaction is two-sided. In ordinary phrase, exports must pay for imports, "exports" being used to include all transactions that increase the purchasing power of a country abroad, "imports" to include all that decrease it. The operations of governments in controlling international trade and finance between the World Wars represent in no small part efforts to enable their respective countries to meet conditions imposed by this inexorable necessity. We are saying here simply that exports, thus defined, increase the claims of the exporting country to the money of the importing country, that imports have the opposite effect, and that these claims must be balanced. The condensed table on page 420 will be found useful in the discussion that ensues.

In the trade and service items the largest amounts due us were on account of merchandise, while our largest debit, insignificant in comparison, was on account of personal remittances. These figures clearly reflect the influence of

[1]At this point the student will find it profitable to re-read the treatment of foreign exchange in Chapter Twenty-one, keeping in mind our immediate concern with exports and imports of merchandise as both a cause and an effect of the movement of exchange rates.

Table XX · Balance of International Payments of the United States, 1940 (in Millions of Dollars)[2]

	EXPORTS (CREDITS)	IMPORTS (DEBITS)	NET (CREDITS+ OR DEBITS−)
Trade and service items			
Merchandise	4021	2625	+1396
Shipping and freight	336	346	−10
Travel expenditures	81	167	−86
Personal remittances	28	119	−91
Institutional contributions	—	54	−54
Interest and dividends	580	195	+385
Government transactions	36	123	−87
Silver	3	58	−55
Miscellaneous adjustments and services (net)	35	—	+35
Total trade and service items	5120	3687	+1433
Gold movements (net)			
Gold exports and imports	—	—	−4744
Gold earmarking operations	—	—	+645
Total gold movements			−4099
Capital items (net)			
Long-term capital movements	—	—	−138
Short-term capital movements	—	—	+1657
Balance on capital transactions	—	—	+1519
Unexplained items	—	—	+1147

the war, which demanded an ever-increasing flow of goods from America, with no offsetting imports. By contrast, our net credit for merchandise in 1937 was 298 million dollars, and the total of trade and service items lacked but 24 millions of being in balance. During 1940 we imported over 4000 million dollars' worth of gold. We sold no securities abroad, but the credit for short-term capital movements indicates a withdrawal from our banks of over 1600 million dollars. In place of the exact balance of debit and credit items required in theory, there appears a discrepancy of 1147 million dollars which must be accounted for by possible errors and omissions in the estimates.

In 1937 the sale of merchandise constituted 43 per cent of our total exports; in 1940, 80 per cent. The comparative value of exports and imports of merchandise (the balance of trade) is commonly thought of as a matter of large importance, and there is a persistent popular illusion that a nation grows rich when it has a so-called favorable balance, that is, when the value of merchandise exported exceeds that imported. A brief study of the table, with a consideration of the meaning of the various items, should serve to dispel the illusion. The balance of trade by itself means nothing except the plain fact that a nation sold abroad a greater or less value of material goods than it bought. Financially speaking, trade in goods must be viewed as only one element in a larger total. It is the balance of payments which is significant.

[2] *Statistical Abstract of the United States*, 1943 (United States Department of Commerce, Washington, 1944), p. 507.

Trade Policy: Mercantilism

Before turning to the question of government practices it is worth while to examine the theories that in the past have underlain them as well as those that dictate them today. During the period of state-making from the fifteenth to the eighteenth century, statesmen cultivated foreign trade as a means of building up both the economic and the political power of the state. Busily occupied within the state in consolidating the central power of the kings as against lords and burghers, ministers found themselves at the same time involved with other growing states. Not only was foreign trade a source of revenue and treasure; it also served to encourage the shipping and shipbuilding essential to naval power, on which, in turn, foreign trade depended. Colonies, valued as markets and sources of materials, were bound tight to the home country by a system of trade monopoly. Every effort was made to encourage not trade in general but such trade as would contribute to the strength of the state.

During this long period two distinct and in a measure conflicting developments are to be discerned. Foreign trade was regulated to the end of national power, and the host of hampering restrictions that limited the freedom of traders to trade as they liked had their origin in real or supposed national needs. Yet some of the very means taken to build up national power so strengthened private interests that they were often able to subordinate national to personal ends. A far-flung trade such as would enhance the power and prestige of the state could be accomplished only with the aid of the state. Venturesome merchants, willing to voyage in search of new products or new markets, were almost certain to find themselves embroiled in warlike competition with traders of other countries or with hostile native peoples. This was the situation when English captains pushed along the African coast or into the rich commerce of the Far East. The hazards were such that single voyagers could not protect themselves, and no national navy was at hand to protect them. The result was the great trading companies of the seventeenth and eighteenth centuries, endowed by their governments with sovereign power in specified areas: they might govern, they might negotiate treaties, they might keep the peace or make war. The justification for the delegation of such powers to private companies was that it contributed to the strength of the state, yet the practical result was the creation of entrenched private interests which demanded protection regardless of whether their privileges forwarded the national interests. It thus came about that the period of mercantile restrictions intended to augment the power and glory of the state was also a period in which special interests, holding great monopoly grants, achieved wealth and sovereign power which threatened to rival that of the states themselves.

Out of the system of trading companies two classes of conflict inevitably arose. Every commercial state fostered its own trade and at the same time tried to steal away that of rival nations. The result was the constant recurrence of war. The European wars of the late seventeenth and the early eighteenth century were largely the outgrowth of such commercial rivalry. The second conflict was a domestic one, found in every trading country. The existence of the great commercial company, with its monopoly granted by the Crown, closed the way to the small independent trader, the "interloper," who in defiance of the monopoly crept into the trade with baffling persistence, underselling the company both at home and abroad and carrying on, before legislative bodies and by cogent pamphleteering, a running fire of argument against company privileges. Both antagonists in this controversy paid at least lip service to the doctrine that trade was for the aggrandizement of the state; each tried to show that his method would best bring national wealth and power. "Free trade" in eighteenth-century polemics did not mean what it does today, freedom from tariff duties, but freedom to trade without membership in an exclusive chartered company. By the second half of the century this freedom was for the most part established, but trade everywhere was still strictly controlled by legislatures in what was thought to be the national interest. Private enterprise, though no longer that of the great joint-stock company alone, still made its way amid a multitude of regulations, both promotive and restrictive, and a host of bounties, subsidies, drawbacks, and customs, many of which long since had lost their original significance.

The Theory of Free Trade

It is against this background that the nineteenth-century movement for greater freedom of trade must be examined. As early as 1776 Adam Smith, the precursor of later developments both in economic thinking and in commercial policy, devoted about one fourth of his work on the *Wealth of Nations* to a savage attack on both the principles and the devices of what he called the commercial or mercantile system of political economy. In his summary, after declaring consumption the sole end and purpose of all production, he went on:

"It cannot be very difficult to determine who have been the contrivers of this whole mercantile system; not the consumers, we may believe, whose interest has been entirely neglected, but the producers, whose interest has been so carefully attended to; and among this latter class our merchants and manufacturers have been by far the principal architects."

In the decades which followed the publication of the *Wealth of Nations* a theory of international trade was developed resting on the realization of the advantages involved if the people of each country could be enabled to utilize more fully the special resources of their own land while they obtained from abroad goods more advantageously produced there. The theory is simply the development of the idea of the economic advantages of the division of labor and exchange. In an economy of free exchange, factors of production will move to their most productive use and consumers will buy in the most advantageous market. Properly limited and understood, this, the fundamental argument for free trade, is in no sense controversial. Nevertheless, the question whether to leave foreign trade free or to check it by protective duties has been for a hundred and fifty years one of the staples of economic controversy.

Every student knows that exchange, by promoting the division of labor, increases the total production of income in any society, and consequently the total to be divided among its members. The greater the differences of endowment and resources for production among them the greater the increase in total production that is brought about by specialization and exchange. The advantages of geographical specialization, in accordance with differences of soil, climate, mineral resources, and other diversities of endowment, are often so large as to overcome even the costs of transportation over great distances. As we have indicated, California ships its oranges to New England, and Detroit sells cars all over the United States.

The scope of such advantageous geographical specialization is not limited by political boundaries. For example, consider Brazil and the United States as a joint producing unit. The exchange of Brazilian coffee for our machinery is a means of increasing the total output of income in the two countries and thereby satisfying more fully the wants of the two peoples. The theory, it should be noted, rests on the optimistic nineteenth-century assumption that the labor and capital of both countries are fully occupied, or at least as fully occupied as they would be in the absence of international trade. This assumption granted, the conclusion follows that international trade, by directing the labor and capital of each country into the channels where they are most productive, helps to raise the production of each country—and therefore, in sum, the production of the world as a whole—to a maximum. Under this assumption, which underlay the thinking of most of the economists of the past century, the greater the freedom given to international trade the greater was bound to be the total production of income in the world. Since both parties profit, though it may be in widely unequal degree, the prosperity of the people of every country involved is increased thereby. At a time when international trade has been shackled with fetters that would have appeared

inconceivable three decades ago, it is important to realize the force of this reasoning, and to realize, too, how largely the growth of international trade, despite all obstacles, did in fact contribute to rising scales of living in all countries brought within its orbit, notably the Western industrial states.

Because the debate over restricted or unrestricted trade has been a matter of protracted political controversy, it is worth while to state the reasoning of the preceding paragraphs with greater fullness and precision, though little is required of the student save that he apply here what he already knows of the process of price-making and exchange and of the benefits of the localization of industry. We assume in all our examination of exchange, whether in a highly restricted market or in world trade, that to buy in the cheapest market is of advantage to the consumer. The area which we now consider is wide, it extends beyond political boundaries, and it may involve heavy costs of transportation; but the benefits of localization, the principles of price-making, and the advantage of buying from the producer whose costs and whose prices are least are not affected by political boundaries.

If it be agreed that, in the absence of artificial restriction, trade between countries will exist when the people of one country can produce and sell a desired commodity more cheaply than it can be produced and sold in another country, the question to be answered is, What creates the difference in the cost of production which makes the price difference possible? It is obvious that countries are variously equipped with productive resources. While some of the agents of production can be moved from country to country, others are immovable. These immovable resources largely determine the character of the industries of a region. Iron mines, heavy forests, fertile soil—in fact, most of the resources which provide the subject matter of Chapter Four—are not transportable. All the elements which together determine the price of factors of production we are not ready to discuss until Part Five has been studied, but we already know that in any given state of demand for a commodity or for factors of production an ample supply tends to establish a low price. Within any country those industries develop which depend upon resources that are ample and therefore cheap. The products of the industries using the low-priced factors can be sold abroad for less than their cost of production in countries of fewer natural advantages. A heavily forested country produces wood pulp at lower cost than do neighboring areas less well wooded; a country of great fertility sells cheap wheat to the rest of the world.

Suppose the abundant factor is skilled or unskilled labor or a plethora of capital. These agents of production, in contrast to those resources furnished by nature, can be moved and often are; but there are obstacles to such move-

ment of sufficient strength to make it probable that they will be more generally employed at home. Because of the large supply their cost will be low in comparison with the cost of similar factors abroad, and the commodities which they produce can be sold abroad cheaply. A difference in the price of factors of production is thus the basis for advantageous trade between countries. Just here the advocate of duties to limit or exclude the importation of foreign goods objects that some country may be so well supplied with cheap labor that it can undersell the rest of the world, not in one or two commodities but in all products. Thus it will penetrate all markets, forever selling, never buying. Before the second World War, alarm was frequently expressed lest the cheap and abundant labor supply of Japan should make it possible for her to undersell American manufactures, no matter what the commodity. This could not happen. Suppose Japan, using her less costly agent of production—labor—had sold to us and to the rest of the world at prices lower than were possible for our homemade goods, and had bought nothing from us. Importers of Japanese goods would have found themselves paying higher and higher prices for bills of exchange with which to settle their obligations to Japanese exporters. So high would these rates eventually have become that some Japanese goods, those in which their margin of advantage was least, would have cost more than the corresponding American goods, and the importation of such goods would have ceased. Only those Japanese commodities would be exported which could be sold so cheaply as to offset the high exchange rate. Further, if the Japanese continued only to sell and never to buy, all means of paying for Japanese goods —that is, all bills of exchange representing claims on Japan—would disappear and importers would cease to buy because they were deprived of the means of paying for their purchases.

While differences in the supplies of productive factors are the most important reasons for differences in cost of production and prices between countries, other causes also contribute to variations in costs. A country which has an early start gains certain advantages which it may long retain. An established industry, known and accepted, has credit facilities, means of transportation, access to markets, all of which contribute to lowered costs in comparison with those of newer industries. Once production on a large scale is achieved, its economies may compensate for the loss of superior supplies of the factors of production. Or the very existence of an industry may perpetuate the supply of the abundant and cheap factor. The German dye industry, said to have come into existence because of a large number of well-trained chemists, became itself the reason for training future supplies of chemists. Whatever the cause of the difference in costs and price, this difference gives rise to trade, with all its advantages, unless artificial restrictions are imposed. From the days of

Adam Smith to the present time, economists, with few exceptions, have emphasized the benefits of trade and deplored its curtailment.

Free Trade in Practice

Though the *Wealth of Nations* was often quoted in Parliament during the early nineteenth century, it was not the arguments of the great economist and his successors but the growth of British manufactures that was responsible for the rapid sweeping away of mercantilist restrictions and the introduction of virtual free trade after the repeal of the Corn Laws in 1846. British manufacturers wanted foreign markets for their goods and cheap food (and consequent low wages) for their operatives. Standing squarely across their path stood the powerful landed interests, heavily overrepresented in Parliament. The Corn Laws embodied high import duties on grain, conjoined with actual import prohibitions under certain conditions. With foreign grain largely excluded, Britain's rapidly growing population had to be fed on the high-priced home product grown on the relatively narrow British acreage. Land rents rose, and the landlords came to believe that the Corn Laws were the cornerstone not only of their own prosperity but of that of the nation as well. Their gradual loss of political power after the Reform Bill of 1832, however, and the continuing growth of manufactures finally brought about the repeal of these laws, and Great Britain was a free-trade country by the sixties, less than a century after Adam Smith had declared:

"To expect, indeed, that the freedom of trade should ever be entirely restored in Great Britain is as absurd as to expect that an Oceania or Utopia should ever be established in it. Not only the prejudices of the public, but what is much more unconquerable, the private interests of many individuals, irresistibly oppose it."

Adam Smith correctly perceived the well-nigh irresistible strength of "private interests" in shaping past trade policy; he could not foresee the swift growth of new private interests so powerful as to give Great Britain, and Great Britain almost alone, a future policy of free trade, to which it remained faithful until 1932. Far ahead of other countries in industrial development, Great Britain quickly became the workshop of the world. The product of her mills and factories was sent to all parts of the earth, where it was exchanged for the foodstuffs and raw materials of other lands. At the same time British credit, lent abroad, enabled the less advanced countries to build their railroads with British rails, to equip their mines with British machinery, to provide their farms with British equipment. As a result the productive power of the borrowers was

increased by the capital instruments bought with borrowed funds, the interest on the loans was met out of the increased flow of income created in the borrowing countries, the streams of international trade were enlarged, and the various countries were brought into growing mutual interdependence. All shared in some measure in a process whereby the whole world grew richer.

The Theory of the Protective Tariff

So long as Great Britain was industrially far in advance of other countries free trade held out large advantages both to its manufacturers and traders and to their customers in countries not yet industrialized; but as soon as these countries turned their attention to the realization of their industrial possibilities it was no longer the mutuality of interests, but the competition of rising Continental and American manufactures with those of Great Britain, that gave shape to government policy. The manufacturers of other countries based the appeal for their protection against the inflow of cheap British goods not on their private interests but on the real or supposed *national* gain to be derived from fostering their expansion. These gains were by no means exclusively economic. The social advantages arising from a diversified national life rather than an overwhelming reliance on extractive industry were emphasized, sometimes perhaps without due appreciation of the added costs of city life. The military dangers of one-sided development were not neglected, even in the relatively peaceful later nineteenth century. The appeal to national pride and prestige also was often made in behalf of an industry in whose development patriots saw possibility of profit. In fact, the advocates of protection addressed their appeals to most of the idealistic considerations by which men identify themselves with that larger unity which they call their country.

The Infant-Industry Argument · Protectionists, however, were by no means lacking in economic arguments. Among such, economists have given attention to the appeal for the fostering of young industries. Given unequal industrial development, free trade tended to maintain permanently the supposed superiority of the industrialized countries (at that time England) over the backward ones, so the advocates of a tariff reasoned. The inhabitants of the latter would continue as hewers of wood and drawers of water for their industrial and financial overlords. To avoid this result, the backward countries must maintain import duties during the period when their manufactures were being built up. Any such duty, it will be observed, would raise the cost of imported goods and would therefore raise the prices to consumers, thus enabling the domestic manufacturer to cover his costs (by hypothesis greater than those

of the foreigner). It would in so far deprive the people of both countries of whatever advantage they might have derived from the operation of the principle of comparative advantage, since international trade would be by so much lessened.

Though both countries would bear the immediate costs, in the country using the protective device this cost might in due time be offset by the growth of manufactures for which it had natural facilities, whose development without protection might be long delayed. As such manufactures grew, the price of their products would fall below the old import price. There would be an early rather than a late development of productive resources that might otherwise long lie fallow. In terms of the classical theory, the comparative advantage of the country for manufacturing as against extractive industries would be increased as a result of deliberate government action. Domestic trade (between town and country) would in so far be substituted for international trade. The results, it was held, would over a period of years be economically advantageous to the people of the protected country because of a better, or at any rate a more balanced, development of its productive powers. The social, political, and military advantages of an economic growth not too widely unbalanced have been generally conceded; this argument undertakes to add economic advantages as well. In this form the infant-industry argument has been accorded at least a respectful hearing by all except the most intransigent free traders among the economists.

Home-Market Argument · In the early days of American protection its advocates urged upon the farmers the desirability of building up manufactures in order to create a home market for agricultural products, instead of obliging the farmers to send those goods overseas. Since the farmers presumably had to pay more for American manufactured goods and received no higher prices for their own produce, the advantages were by no means wholly clear; but at any rate the farmer was presented with a customer he could see in place of one that he could not see. He was asked to believe that he himself was gaining by aiding in the patriotic work of building up American towns to eat American wheat and pork and to spin American cotton—though the cotton-growers proved hard to persuade.

Wage Arguments · American theorists have also been much preoccupied with the relation between international trade and wages—naturally so, in view of the relatively high level that wages have held in this country as compared with almost all other countries. It was long maintained that high wages here were caused by high tariffs. The idea does not bear a moment's examina-

tion. High wages in America, as we hope will be shown in Chapter Twenty-five, have always rested on the high productivity of American industry. That productivity is based not on tariffs or other government favors but on the richness of our natural and human resources and on our industrial organization. American wages have been relatively high, not only in protected industries but in agriculture and other extractive industries, in construction, and in dozens of lines in no way dependent on tariffs, many of them indeed demonstrably handicapped by our protective policy. To argue that high American wages in general have been caused by protection is to ignore all pertinent facts.

Driven from this position, the supporters of high tariffs have urged that, nonetheless, tariffs on imported goods, if not the cause of high wages, are necessary to maintain them, to protect the American scale of living in face of the inflow of goods produced by "the pauper labor of Europe"—or, in more recent years, of Japan, In this simple general form the argument is easily enough met by the orthodox free trader. If high wages are not due to high tariffs, he says, then the lowering or removal of tariffs will not make wages fall. He points to the theory of comparative advantage. Take off the tariffs and admit certain foreign goods, if such are in fact kept out. Certain industries may be rendered unprofitable and their workers may be out of jobs, but the labor will be reabsorbed in other and more productive industries which will now be obliged to turn out larger quantities of goods to pay for the increased imports. Since industry as a whole is now more productive than before, and labor is employed where it is more rather than less productive, there is every reason for expecting wages to be higher rather than lower once the difficult period of readjustment is past. Once more we are obliged to agree that, instead of keeping wages up in the face of the competition of goods produced by low-paid labor in other countries, trade restrictions, whether by tariffs or otherwise, simply keep real wages here lower than they would be without such restriction.

Unemployment · During the long debates over this question the free traders have contented themselves with the argument of page 423. "Practical" men have refused to be convinced. They have pointed to factories closed and workers unemployed as a result of the lowering of this or that duty, leaving the matter at that point, and usually winning their battle by indicating simple and indisputable facts. Such facts prove nothing. The real question is, Are the unemployed workers reabsorbed elsewhere and are the closed plants turned to other uses? If they are, then plainly they must be utilized in more productive and therefore more profitable industries, and everything works out to higher wages. To assume that such reabsorption would occur, as do the

free traders, was perhaps close enough to the facts in the rapidly expanding American economy of the nineteenth century; it may come about more slowly in the sharply changed economy of the twentieth.

The disagreeable fact of a more or less continuous though varying underutilization of labor and producers' goods under our existing economic controls is coming to be reluctantly recognized, and reasoning based on the assumption of full employment loses its relation with reality. The change in the validity of the assumptions has not strengthened the arguments for trade restriction. On the contrary, the spread of restrictions during the thirties undoubtedly contributed to the devastating unemployment of the decade. To use a protective tariff to prevent the purchase of Swiss watches in order that more American watchmakers may be employed may for a time prevent unemployment in this industry, at the expense of American consumers, and of other American workers, who will eventually suffer from the reduction in foreign trade to which the tariff on watches has contributed. Unemployment cannot be remedied or prevented by tariff barriers.

In general the foregoing were the arguments by which the policy of protection was supported in the nineteenth century in all the leading commercial countries save Great Britain and Holland. Ever since the 1820's, with occasional brief intermissions, the United States has pursued a persistently protective policy, sometimes supported by one of the arguments presented above, sometimes by another. In the nature of things, the farmer, producing wheat or cotton for export, bore the immediate costs of fostering manufacturing, by paying enhanced prices for manufactured goods while the foreign market for his products was somewhat lessened. Nevertheless, this situation by no means united the farmers of the country in opposition to a protective policy. During the decades from the Civil War to the very eve of the first World War there was no serious relaxation of the grip of protectionist interests on our trade policy. Some of our leading manufacturers, however, aided by great natural advantages, in time became heavy exporters and were, accordingly, more interested in the development of foreign markets than in unnecessary protection of domestic ones. The tariff act of 1913 gave recognition to the new interests by the substantial lowering of many rates. It seemed reasonable to suppose that the United States had entered on the beginning of a more liberal trade policy.

International Trade between the World Wars

Then came the first World War, which in four years destroyed the old international economic structure and all the unity which it represented. We

have already described the overthrow of the gold standard, the consequent confusion of currencies, and the efforts at readjustment during the twenties. The buying and selling of foreign exchange before the war was largely a simple matter of arithmetic; after the war it called for the wisdom of a Solomon and the divination of a Witch of Endor. Foreign trade became a gamble. Old trade connections had been violently broken. The war and its aftermath changed debt relations that had been built up over a century of financial growth, made of the United States a great creditor nation, and piled foreign-debt obligations on most of the European countries. Add to the far-reaching physical, economic, and financial destruction and dislocation of the war its political consequences: the breaking up of old empires and nations; the setting up of new states, each with its own tariff and trade regulations, its own money system, its own economic interests, jealously opposed to those of its neighbors; the political upheavals and outright revolutions that marked the years between the wars—add these things, and you arrive at a partial explanation of why foreign trade after 1920 continued to be completely different from that before 1914, and why with the depression it shrank to comparatively small proportions.

A very few figures will serve to illustrate the vicissitudes in the amount of trade. Important as they are, the changes that have come about in the control of trade and the purposes behind the control are of still greater significance and must be developed at greater length. Recorded world trade at the beginning of the twentieth century amounted to about 21 billion dollars; by 1928 it had increased to some 66.7 billions. This does not mean that the volume of trade had tripled; a considerable part of the increase merely recorded rising prices. In 1929 it was 68.6 billion dollars; then came a sharp fall. The total for 1933 was 24.2 billions; for 1935, 23.8 billions. This, again, is not to be attributed solely to a change in the volume of trade. Between 1929 and 1933 the amount of goods exchanged probably declined about one quarter; the fall in prices accounts for the further difference between the figures for these years and those for 1929. For the United States alone the sum of exports and imports in 1900 amounted to 2.2 billion dollars; in 1910, to 3.3 billions. By 1929 it was 13.5 billions; in 1932 it was not much larger than it had been in 1900. The years immediately preceding the second World War saw the trade figures climb to 5 billion dollars, but again part of the increase was to be attributed to an increase in prices rather than in volume of trade.

Before the first World War foreign trade and investment were largely accepted as activities of private citizens or corporations, carried on, as was domestic trade, for private gain. Government regulation, even in the form

of protective tariffs, tried to promote the public interest by promoting the private interests involved. By the end of the thirties, over most of the world this view of foreign trade had given way to a new one in which such trade had become first of all an instrument of public policy and only incidentally a means of private gain. The Soviet government monopolized the foreign trade of Russia; the governments of Germany and Italy, long before they went to war, exercised a control of private foreign trade so strict as to approximate the same economic result. Nowhere did such trade enjoy its prewar freedom.

The new policies embraced the familiar prewar aims of revenue and protection, together with the efforts in most countries to promote foreign trade. But they also embodied ends born of war and postwar experience. To a striking degree, as suggested in our discussion of the balance of international payments, trade policies were dictated by the necessity for meeting private and government payments beyond the national boundaries and for keeping up the foreign value of the currencies. Trade was often regulated to further the purpose of finance rather than finance regulated to further trade. In addition, the never-distant fear of a new war, later realized, led to the establishment of schemes to promote national self-sufficiency and to meet inescapable deficiencies. Finally, there was manifest almost everywhere an inclination to subject foreign trade, like every other phase of economic activity, to increased central control in the pursuit of national purposes by no means always economic.

Aside from the financial ends, the other distinctive aims of the new trade policies might be summarized as greater economic nationalism. In its extreme form this means autarchy or national self-sufficiency, impossible for any except a few huge and internally varied economic units such as might be constructed out of the Soviet Union, the British Empire, a federation of Europe, or the United States. Even in all these it would involve a heavy economic cost. Without trying to go the whole distance, many governments, before the second World War, commanded popular support for programs that contemplated a much greater degree of economic self-dependence than they had before the first World War.

During the nineteenth century geographical specialization based on the diversity of natural resources was greatly extended, with a corresponding growth of international trade. In the twentieth century, in both agriculture and industry, the progress of science and technology has emphasized the importance of applied knowledge as compared with natural resources in the processes of production. This development works in the opposite direction from that of the earlier century. Instead of increasing specialization and trade between agricultural and industrial countries, it operates toward the growth

of industry in the former and of agriculture in the latter, with a corresponding relative expansion of domestic as compared with foreign trade. The results should not be exaggerated, but the tendency certainly exists, and it makes easier the task of governments that for any reason wish to lead their people along the road of decreased economic dependence on foreign countries. Because of improving technology a policy of self-sufficiency costs less. Moreover, the freedom of governments to prosecute such policies is increased by their success in substituting noneconomic for economic ends in the thought and feeling of their citizens. The Hitler government, for example, appears to have been surprisingly successful in turning popular feeling from material ends to dreams of power, co-operation, aggrandizement. The humdrum gains of better and cheaper food may be foregone with comparative cheerfulness for the enhanced self-respect which results from participation in a national end, especially if it be accompanied by the economic boon of a job, however poor, instead of idleness. In trying to appreciate the ends toward which trade policies were directed, particularly in the so-called authoritarian states, we thus see something of the reason why such policies can command the necessary popular support.

In brief, during the period between the World Wars many if not most governments shaped trade policies with relatively less attention than before 1914 to exclusive economic considerations; and in the economic field they gave less attention to the general arguments for free trade that were urged with much force in the nineteenth-century era of rapidly expanding world economy. They therefore accepted without much anxiety a decrease in foreign as compared with domestic trade, and looked for salvation to new methods of control.

Methods of Trade Control

Professor Dietrich characterized the types of trade control at present in use as follows.[3]

"State monopoly of foreign trade by executive authority which includes both the power of regulation and the actual purchase and sale of commodities.

Complete executive control with purchase and sale carried on by private individuals subject to permission from the government.

Executive control for specific purposes such as bargaining, the control of dumping or trade balancing, delegated by the legislative authority, with freedom of individuals to carry on trade within the framework of regulations."

[3]E. B. Dietrich, *World Trade* (Henry Holt and Company, 1939), p. 47.

The countries of the world could be classified before 1939 according to the types of control they employed: Russia belonging to the first group; Germany, Italy, Denmark, and all countries with strict regulation of foreign exchange to the second; other countries to the third. The totalitarian states were among those in the first two groups; the democracies, in the third group. In the former, trade control became, as was earlier stated, an instrument of public policy, but there have been countries in the second group with no such political inclinations. They have felt obliged to put the control of foreign trade completely in the hands of the executive for monetary and financial reasons. Among trading nations like the United States and Great Britain control of the third category has been by no means complete, but nonetheless the executive has a considerable degree of power, delegated by the legislature, to be exercised for a wide variety of purposes all supposedly in the national interest.

The contrast with the situation before 1914 becomes clear on a moment's reflection. All over the world foreign trade was "managed" by the executive instead of being left to the practically uncontrolled devices of private traders. Of course it would be a mistake to suggest that trade was wholly uncontrolled before 1914; the prevalence of protective tariffs sufficiently negatives that view. Equally wide of the mark is any suggestion that private traders were left with no freedom in the thirties, but the broad generalization is sufficiently exact: before the first World War international trade was a matter of private business; by 1938, even where it was not a matter of actual public business, it was under strict public control. Moreover, the private purposes of traders had often become secondary to the public purposes of governments. The older ideas and explanations of the course of international trade had thus become inadequate and in some respects irrelevant.

Detailed methods of control varied widely. Imports were controlled in the first place, as they have always been, by tariff duties, which, however, were changed with a suddenness and capriciousness unthinkable before the first World War. Not only were they used for revenue, as they have always been, and for protection—both to give advantage to domestic industries and to defend them against dumped and subsidized goods from abroad—but they were employed also to give preference to the sellers of particular countries, as in the preferential rates enjoyed by goods of the British Dominions in various empire markets; they were utilized likewise for bargaining purposes, to induce other countries to reduce their rates by the promise of corresponding reductions. A relatively new development was duties adjusted in such a way as to bring a balance of the exports and imports between pairs of countries. Sometimes this balance was worked out by barter agreements, in which specified

goods were exchanged. An agreement of 1932 providing for an exchange of 28,000 Hungarian pigs for 20,000 wagons of Czechoslovakian wood for fuel, and the trade of Hungarian eggs for facilities for Hungarian tourists in hotels of Czechoslovakia, illustrate the nature of such bargains. Germany is said to have exchanged mouth organs for Greek tobacco and raisins, and to have paid a reluctant Yugoslavia for copper and wheat in a fifteen-year supply of aspirin. Subsidies and various forms of indirect protection, like our import regulations under the guise of sanitary control, are other weapons in the taxation armory for the control of exports and imports.

More drastic in their effect than protective duties are licenses and import quotas, which by 1937 were in use in no less than twenty-four countries. France, with quotas applied to twelve hundred commodities in 1933, demonstrated the lengths to which such control could be carried, even in a non-totalitarian country. With great variations in the details of administration, these schemes, either by legislation or by administrative action, fixed definite quantities of the various quota goods that might be imported during definite periods, quarterly periods being the most common. Before the depression of the thirties such arrangements were thought of only as war measures, but they may be used for all the purposes for which import duties are employed, and are vastly more effective if the purpose is rigid control of the amount of specific imports. Their unpredictable changes add seriously to the risks of trade.

Foreign-Exchange Controls and Foreign Trade

Even more important, by reason of their far-reaching effects on both export and import trade, were the foreign-exchange controls set up during the thirties and by 1937 employed by thirty-two countries (not including the twelve that had exchange equalization accounts, like those of Great Britain and the United States referred to in Chapter Twenty-two). The exchange restrictions, which for the most part came into existence after Great Britain's departure from the gold standard in 1931, were set up by various countries to maintain the value of their currencies abroad and to safeguard their ability to pay for essential imports. Under the operation of the gold standard a fall in the exchange value of a country's money below the gold export point theoretically caused a gold outflow with corresponding readjustment of the international price structure and exchange rates. With the gold standard gone, no such adjustment occurred. International price relations and exchange rates were in a state of chaos. The most extreme of the measures passed to bring order demanded practical government sanction for or refusal to sanction every item entering into the international balance sheet. As regards foreign exchange, where all

other measures converge, such action meant that in place of the old free market for exchange there was substituted in effect a central monopoly market, operated or controlled by government. Since all exchange transactions in either direction have to pass through this market, the government in such countries has power to ration available exchange as seems wise to it. It cannot make foreigners buy, though by a proper manipulation of exchange rates it can induce them to do so; but by the simple device of refusing to sell exchange it can prevent its citizens from buying abroad. Whether they want foreign goods and travel or, like corporations, want to meet interest on bonds honestly sold to foreigners years earlier, their ability to make payments depends on their ability to get exchange. In its more extreme forms, conjoined as it must be with preferences, priorities, and licenses for the various purposes for which exchange is wanted, the system thus places in the hands of the government practically complete control over the international economic relations of the country, public and private alike.

Our immediate concern is with the relation of exchange control to commodity trade. As we know, high foreign value of a country's money is favorable to imports and low value to exports. Hence the controlling authority may deliberately depress the exchange value of its money for the purpose of aiding export industries; on the other hand, at a time when large imports are needed, or when the government or other important debtors have large payments to make abroad, it may take measures to raise such value. We do not enter into the elaborate technique of exchange control, nor point out either the limits within which it can be exercised or the financial cost to government involved in it. It is plain, however, that foreign trade carried on under such controls is by no means the happy-go-lucky economic activity of the old liberal days. Both exporter and importer are subject to the decisions of the governmental exchange control, taken, it may be, for reasons entirely unconnected with the prosperity of foreign trade. The importer must act practically under a license system, since his ability to get the means of payment depends on the decision of the control. The exporter must dispose of the exchange he has created at whatever price the control offers, since there is no other market. Further, the control may pick and choose among industries, or even at need among concerns, in pursuance of policies that, basically, are not economic in character.

Sharply different were trade conditions in countries constituting what we shall, for convenience, call the new (relatively) liberal group. Such countries included among others the United States, Great Britain, the British Dominions, France, Holland, Belgium, Switzerland, and Sweden. They lived in the same world with and traded with the countries of controlled trade; their

policies and methods had to be adapted to that fact and to other new conditions. Though their foreign trade was still motivated at bottom by the desire of private traders to make money, yet in each of these countries new machinery for trade control was developed, and these states were the leaders in instituting the exchange equalization account, their substitute for the exchange control of the other group. To follow in some detail American policy will serve to illustrate the methods of this group.

Recent American Policy

In the United States, as in other countries, the first World War checked the tendency toward a more liberal foreign-trade policy and enthroned nationalistic policies more securely than ever. Under the influence of postwar alarms we went back to pre-1913 conceptions and in 1922 raised rates on some competitive items to unprecedented heights. In 1930, under the impact of fresh fears induced by collapsing prosperity, in the face of opposition from some farming and export manufacturing interests, and over a protest signed by more than a thousand economists, the screw was given yet another upward turn. The tariff act of 1930, the Hawley-Smoot Tariff, remains our basic tariff legislation.

Our traditional practice has been for the Congress itself to fix the rates of a tariff act. In 1890, however, the President was given a certain discretion: he might raise rates on particular goods from particular countries, but he could not lower them. From that time forward the power of the executive and the administrative branch of the government, in both the making and the carrying out of our tariff and other foreign-trade policies, has tended on the whole to increase. By the Reciprocal Trade Agreements Act of 1934, contrary to practically everything we had done previously, the President was authorized, under specified conditions and for the purpose of expanding foreign markets for our products, to enter into agreements with foreign countries and to modify existing tariff rates by not more than 50 per cent. The new element in this was the presidential power to cut tariff rates in two. Under this act an elaborate machinery for negotiating trade agreements was set up, and the government, working under a carefully safeguarded procedure, had up to the end of 1940 negotiated agreements with twenty countries, including such important ones as Canada, Brazil, Great Britain, France, Belgium, Holland, Switzerland, and Sweden. All these treaties contain the so-called most-favored-nation clause under which each contractant binds itself, in respect to tariff duties and other trade controls, to grant to the other not less favorable treatment than that which it accords to any other country. This principle

in fact means that a concession granted to any country is thereby automatically extended to all other countries with which we have trade agreements, though we reserve the right to withhold such concession from any country that is thought to discriminate unfairly against our trade. The substantial result of the policy of trade agreements, therefore, if successfully and continuously carried forward, would be to bring about a cautious and bit-by-bit lowering of tariff rates and a similar relaxation of trade restrictions among the contracting countries.

Without exaggerating the possibilities of the plan, we do well to recognize that it offered the only method of lessening trade restriction that seemed before 1939 to be getting the sympathetic consideration of any government.

The second World War so completely destroyed what international cooperation had existed in 1939 that statesmen were free to determine goals and devise methods of attaining them little hampered by the institutions of the past. The first attempt to rebuild international ties was the formulation and acceptance of the Bretton Woods Agreement described in Chapter Twenty-two.

PART FIVE

DISTRIBUTION AND CONSUMPTION OF INCOME

CHAPTER TWENTY-FOUR

Distribution[1]

UP TO THIS point our study has concerned itself with our economic system as the organization of our activities for the production of goods. Production, we have discovered, is an intricately complex co-operative social process, requiring an elaborate machinery of exchange. The student scarcely needs to be reminded that such production is not an end in itself. Its rational aim is to satisfy as far as may be the multitudinous wants of all the people. The double end of an intelligent economic policy will be, therefore, first, an abundant production of goods for consumers, under the best possible working conditions, and, secondly, the distribution of those goods among consumers in such a way as to make them yield the greatest possible total of satisfaction. This is only to repeat what already has been emphasized, that the goal of an economic system is the maximizing of satisfaction, for the end, be it remembered, of making the best possible human beings. While production is a co-operative process, consumption is individual. Every man eats for himself, and does his own looking and listening at the picture show and the symphony concert. Perhaps, however, we should better think of the family, not the individual, as the important consuming unit. While each person eats his own food and wears his own clothing, the amount and kind of food and clothing that he enjoys, and even more evidently the housing that he shares, are determined largely by his membership in a family whose income and expenditure are under unified control. The consumption of the family, within income limits, is determined by the spender of the family income. Similarly, producers' goods are used by business undertakings separately. Each of them makes use of its own stock of land, buildings, and equipment, not of a general undivided stock. Hence it is necessary for the goods that our productive machine perpetually turns out

[1]The word "distribution" in the economic sense here employed has nothing to do with the physical distribution of goods by the agencies of transportation and trade. That the economist calls marketing. Our study is concerned not with the actual handling of goods but with the division of goods among those who consume or use them. As a means to that end we study the distribution of money incomes which constitute the claims to goods. It should be remembered that we use the word "goods" in place of the usual "goods and services," for reasons set forth in Chapter Two.

to be divided up or apportioned in some way among those who will consume or use them. It is to a study of this distributive process that we now turn.

The term "distribution," as ordinarily used in economics, refers not to the division of wealth among those who own it but to the division of income among those who receive it, though it is hard to disentangle the two completely. Our concern with a given man, however, is not that he is worth a hundred thousand dollars but that he has an income of five thousand a year from his investments. Another man may own almost nothing, but like his neighbor may get an income of five thousand dollars a year—in this instance from his work. Owning practically no property, he yet receives from his labor a money income equal to that of the property-owner. In the study of distribution we seek an explanation of the forces that determine the division of the national income among all those who share in the productive process and in the resulting income.

National Real Income

What is this national income that is to be distributed? It turns out to be extremely hard to define. It is easier to define national wealth, though even that we cannot do with complete satisfaction. If we were to make an inventory of every valuable thing in the country (omitting evidences of debt and ownership like mortgages, bonds, and stocks), with a statement of its value, we could get at least a working idea of our national wealth. A corresponding inventory of owners (this time including the evidences omitted above) would give us a rough notion of the distribution of its ownership. We could say that the national wealth consists of such and such concrete things, worth so much in total, of which this man owns so much, that corporation so much, that city so much. The ownership evidently is qualified by the facts represented in the evidences of debt and ownership. Our inventory of national wealth has a measure of reality because it is an inventory of actual articles of wealth, not just a collection of price tickets. If we say that our national wealth in 1929 was estimated at about 360 billion dollars, we think of a total of concrete goods worth that much at 1929 prices.

If we say, however, that our national income in the same year was estimated at about 81 billion dollars, what do we really mean? Our national real wealth at a given date in 1929 consisted of goods valued at 360 billion dollars. Our national real income during the entire year 1929, from the consumption point of view, likewise consisted in part of material goods received by all of us during the year, but in part (and in important part) also of services that we received. The services rendered during 1929 by our professional men and government

agencies and amusement enterprises, to take but three examples, plainly constituted a part of our national real income just as truly as did the food produced by our farmers and cooks or the clothing turned out by our clothing factories and tailors. Services make up no part of an inventory of wealth, for they are consumed in the very moment when they are rendered; but they are evidently a part of income. Indeed, we learned in Chapter Two that in reality income consists wholly of services. National real wealth consists of material goods; national real income, of material goods and services. What is the reality, in such goods and services, that was distributed in 1929, that is being distributed this year, that will be distributed next year? That reality is extremely hard to get at and almost impossible to measure.

We may proceed best from a statement of the ordinarily accepted idea to an examination of a few of the difficulties that it embodies. The national income produced in the United States in 1945, according to the estimates of the Department of Commerce, consisted of goods valued at just about 161 billion dollars. That is to say, our industry as a whole turned out during the year a net product of goods which, at the prices then prevailing, were valued at that amount. Here is a concrete product of goods coming into existence during the year, the so-called national income, comparable in a way with the inventory of goods that at a given time make up our national wealth. So far it seems clear enough. Further, if the year's total output is worth 161 billions, we commonly think that a family with a ten-thousand dollar income will get and probably consume ten thousand dollars' worth of those goods. Going a step further, we conclude that all individual money incomes taken together, similarly exercised against the total of real things at the prices prevailing, will purchase the entire amount, thus distributing the total produced real income. The idea is a useful one, but on examination it turns out to be not wholly in accord with the facts. We cannot arrive at the national income produced by adding together individual incomes, though that process will render aid in the investigation.

The national income produced we can measure with considerable accuracy. We can also estimate the money income paid out to income-receivers. As we implied above, the two figures, closely related and both useful, are not identical. A third concept, that of income consumed, is for many purposes more illuminating than either of the others, but until recently we have had little means of measuring this and only estimated it from the other two amounts. Statisticians did not actually believe income consumed to be the same as income paid out or income produced; they merely used the best figures at the time available. The result was, however, to produce in the minds of the unwary the mistaken idea that the three incomes were identical.

National Income Produced

We examine first the annual product, the national income produced, ignoring for the time its money statement. From the farms, mines, mills, factories, and shops of the country there issues during any year a bewildering stream of goods: grain and livestock, ores, flour, lumber, iron and steel, bread and cake, shoes and silk dresses, houses, automobiles, radio sets, race horses, baseball masks, electric refrigerators, lead pencils, newspapers, easy chairs, ice-cream sodas, tractors, power looms, locomotives, concrete dams, counting machines, harvesting combines, shovels, metal-working machinery—every physical good that human heart can desire or human ingenuity can contrive. A large part of the products, of which a few examples are given at the beginning of our list, although they are the finished product of the industries that turn them out, are only the materials of other industries and as such are destined to undergo further manipulation before emerging in final form ready for consumption or use.[2] They must be omitted in picturing the net product of our economic activity. The others, the end products of the system, take their shape as finished goods ready for the consumer or user. Their total constitutes the national real income produced, as far as it consists of material goods.

These final goods annually produced consist of two classes: (1) consumers' goods, the creation of which constitutes the ultimate end of the whole system of material production; (2) producers' goods, created only to be used in turning out consumers' goods. Consumers' goods in turn embrace two groups: (*a*) nondurable goods, of which food is the best example, largely consumed as they are produced; (*b*) durable goods, of which automobiles and dwelling houses are good examples. The consumption of goods of this latter sort produced this year will be spread out over a series of years to come; nevertheless the entire production is reckoned as a part of this year's national income. Producers' goods likewise fall into two groups: (*a*) nondurable goods, like coal burned in the engines of a factory or power plant; (*b*) durable goods, like factories and machinery, tools and tractors. Goods in the first group disappear, so to speak, in a single act of use and do not reappear physically, as do ordinary raw materials, in a finished product. Goods in the second group continue to be used over a series of years until they are worn out; yet the total of such

[2]We distinguish throughout between the consumption of consumers' goods, which directly gratifies wants, thus constituting the logical end of the economic process, and the use of producers' goods, which gratifies no wants directly and serves only as an intermediate step in the process of bringing consumers' goods into existence. No study of distribution is adequate that does not keep this distinction constantly in mind.

goods produced in a year, like the similar total of corresponding consumers' goods, is reckoned as a part of that year's national income. The importance, for a realistic study of distribution, of the distinction between producers' and consumers' goods and between durable and nondurable goods will be pointed out shortly.

The product of the national economy—that is, the national income produced—consists not only of material goods but also of services. In Chapter Seven we noted that about one quarter of all workers are attached to the service industries. The fact that their product takes on no material embodiment and is consumed in the very moment of production does not lessen its importance. The bus-driver and the railroad conductor, the radio entertainer and the professional baseball player, the barber and the "beautician," the waiter, the domestic servant, the odd-job man, the teacher, the physician, the policeman, the President, each contributes his share to the year's national income just as truly as though he were turning out steel billets or watermelons. Here also belong the services of the housewife, though these find no place in our statistics of income produced. The total national real income thus produced embraces the material goods of the last paragraph and the services of this.

National Income Consumed

A little consideration, however, raises grave doubts whether the national real income, as defined above, is distributed by means of money payments in anything like the fashion we ordinarily think. From the point of view of actual living, the important questions are what quantities of goods are available year by year for consumption and who gets them. Our ultimate interest goes even beyond this to the national psychic income, to use the term of Chapter Two. The aim of social policy is to maximize that income and to minimize the cost of producing it. The national psychic income in any year consists of the total flow of satisfactions that come to all the people from the goods that they actually consume during the year, along with their pleasure in their work, which we here omit. Plainly it has nothing to do with the using up of producers' goods, which yields nobody any psychic income. As we know, we cannot measure psychic income but must be content with our measurement of real income, relying on the assumption that an increase in real income is accompanied by an increase in psychic income. The real income consumed annually consists of the goods consumed during the year. This entirely excludes producers' goods. Of course, the more abundant the present output of producers' goods the more abundant is likely to be the future output of consumers' goods, and the more abundant the output of consumers' goods in

any year the greater is likely to be their consumption in that year, though the production and consumption of such goods in any year are not likely to be equal.[8]

Leaving producers' goods for the time being out of account, we turn to examine the relation between production and consumption of consumers' material goods and services. The services of the year 1947 were produced during that year and consumed at the very moment of production. The perishable consumers' goods of that year also, broadly speaking, were both produced and consumed during the year, if we ignore relatively small differences of carry-over at the year's two ends. In durable consumers' goods, on the other hand, the situation is strikingly different. We had, say, approximately 28,000,000 automobiles at the beginning of the year 1936, and produced about 5,000,000 during the year. The average life of an automobile is figured roughly at eight years. Even on the assumption that all the old cars were used during the whole year, and that the new ones were used on the average during half the year, our consumption of cars during the year would have amounted to no more than 30,500,000 car-years, while our production came to 40,000,000 car-years (5,000,000 × 8). The income thus produced, under the conditions assumed, is nearly a third greater than the income realized by consumption. During the bottom years of depression, on the other hand, the consumption of cars was considerably greater than their production. The automobile-makers themselves look on the stock of cars in the hands of owners as a reservoir of unused mileage into which they (the manufacturers) more or less irregularly pour added mileage in the form of new cars, while the owners draw it off with surprisingly little irregularity by driving (that is, consuming) their cars. The discrepancy may be even more striking in respect to longer-lived goods, such as houses, which probably last on the average a third of a century or more. House-building is notably irregular among productive activities. On the other hand, even the almost complete cessation of building for a year or two makes practically no difference in the consumption of houses; a certain number of people live for a time in somewhat older houses than they otherwise would, but that is about all.

Which of the two things, the production of cars and houses and of all other

[8]It should be noted that we are not criticizing the concept of national income produced, but are pointing out that income is quite a different thing according as it is looked at from the point of view of production or from that of consumption. In studying the enjoyment of goods the latter aspect is chiefly important; in studying the control of industry, the former. As was earlier indicated, the term "national income" usually has been identified with production; but it is highly important to keep the income consumed always in view as the ultimate purpose of the production.

durable consumers' goods during the year or their consumption, constitutes the real income of the year? Clearly, in the significant sense of direct influence on well-being, it is the consumption, since the services embodied in the durable goods produced cannot possibly be realized in the year of their production but only over the whole series of years during which they last. From this point of view the national real income of the year 1947 is not the national income produced. It embraces three, and only three, items: (1) services produced (and consumed) during 1947; (2) perishable consumers' goods produced (and substantially consumed) during 1947; and (3) the year's consumption of the entire stock of durable consumers' goods, including the smaller part of that stock produced during the year and the larger part that was in existence at the beginning of the year. It differs from the income *produced* in that it does not include at all (*a*) the durable consumers' goods produced during 1947 but not yet in the hands of consumers; (*b*) the producers' goods produced during that year; and (*c*) the use of the stock of producers' goods during the year. Psychic income is derived solely from items 1, 2, and 3, not at all from *a*, *b*, and *c*. It is thus the first three items, not the second three, in which we are primarily interested in studying present distribution as related to present consumption, though the second three are important in reference to the amount and the distribution of future real income. Unfortunately, the available information throws far less clear light than we should wish on the question of consumption, and we have to proceed from fairly well-known facts about the distribution of money income to facts inferentially known about the distribution of goods currently produced, and thence by further inference to the facts about consumption of goods.

The difficulties and problems suggested in the preceding paragraph are by no means purely theoretical ones. That the services of durable consumers' goods are income is eloquently attested by the rents that landlords collect from the tenants of their houses. But the services of a house do not cease to be real income because the owner decides to live in his house himself and enjoy those services directly instead of collecting a money rent from someone else who, without owning the house, consumes it (enjoys its services) during a period of time. Those services during any year are so clearly a part of the real income of that year that some income statisticians, after defining the national income as the entire net product of industry (as is done in the excerpt on page 448), have found themselves constrained to add to that total another sizable item. This item covers rent of houses occupied by their owners, and sometimes similar income realized from the enjoyment of other durable goods which were produced before the year under consideration. The confusion here is the result of trying to combine in one total two different things. Income produced

would include the number of houses built during the year; income consumed, the service of those houses lived in. The sum of the two figures represents neither.

National Income Paid Out

In the foregoing discussion of the realities of producing and consuming, of working and living and enjoying, we have avoided all reference to quantities in terms of money. We now turn directly to problems of money valuation and of money payments, for these constitute the mechanism by means of which the national income is distributed. Practically the entire study of distribution concerns itself with money income; yet the effort should be made at every point to keep as closely in touch as possible with the realities of goods, which are our rational concern. National income and individual income consist of goods; money constitutes the claim checks by which we obtain goods from the pool of those produced. Returning to the national income produced, as earlier defined, we have no difficulty in thinking of the goods produced during a year in terms of their money value, thus arriving at the idea of national income as a sum of value. The concept of national income as such a sum has been concisely stated thus:[4]

"If all commodities produced and all personal services rendered during the year are added at their market value, and from the resulting total we subtract the value of that part of the nation's stock of goods which was expended (both as raw materials and as capital equipment) in producing this total, then the remainder constitutes the net product of the national economy during the year."

Hence we say that during 1929 the national income was 81 billion dollars; during 1932, 39.5 billions; during 1945, 161 billions. We think simply of the money value of the whole concrete product of our economy. Such changes in national money income from year to year may arise from (1) changes in the quantity of goods produced, (2) changes in their prices, or (3) changes in both.

This total value not only is created in various amounts by the operations of millions of separate producing establishments, including both business undertakings and government and other non-profit-making agencies, but is also distributed through the business organization of these producing units. Roughly speaking, we may say that in the course of the year's operations each business undertaking, by making payments to the various classes of persons

[4] *National Income, 1929–32* (United States Department of Commerce, Bureau of Foreign and Domestic Commerce, 1934), p. 1.

connected with it, divides up among them the amount of value it has produced, leaving out of account additions to or subtractions from corporate surplus.[5]

To see how this works let us first take an illustration shorn of all complications. A small cannery produces a net product valued at $10,000. This $10,000 is paid out, through the business organization of the producing unit, to employees, bondholders, and shareholders. If nothing is reinvested in the business, the sum of these payments may be assumed to equal the sum of the value produced, $10,000. The producing unit produced $10,000 worth of canned goods; it distributed $10,000 in money. The money it obtained by selling its product to retailers, who sold it to consumers. The families of bondholders, shareholders, and employees obtained what canned goods they wanted by taking their money, which we may call claim checks, to a store and there purchasing what they had helped to make. There are here two circuits: one of money, one of goods. Money goes from consumers to business organizations. They pay it out to those who contribute to making the product. These income-receivers, as consumer-purchasers, then start it back to business organizations. Meanwhile the goods produced by the enterprise pass to consumers in return for the money which consumers receive for their contribution to production.

Once this is understood we are ready to examine a slightly more complicated but more realistic illustration than that of the cannery. A cotton factory in the course of a year turns out sheeting worth $2,000,000. To produce this it uses $1,000,000 worth of raw cotton. Depreciation of plant and all other costs of maintenance come to $200,000. Thus $1,200,000 worth of product simply replaces the value of material and necessary wear and tear. The actual value produced by running the factory, what the Bureau of the Census calls "value added by manufacture," therefore comes to $800,000. Of this assume that $50,000 was paid out as taxes and $450,000 in wages and salaries, that $30,000 was paid as rent of a leased plant, and that $90,000 went as interest on bonds, leaving $180,000 to be turned over to the stockholders in dividends or retained in the business and recorded as corporate surplus, thus increasing the stockholders' equity. In the process of production and sale the $800,000 of income produced thus is divided up automatically, after paying taxes, into the four so-called distributive shares: wages, rent, interest, and profits. Through the payments made by business producers the value product of the year's industry is distributed. Insofar as enterprises retain part of the value they have produced, income paid out and income produced in any given

[5]We defer to our study of profits any examination of the way in which certain business concerns, though apparently producing almost nothing, yet manage to share generously in the value produced and to distribute it freely to their owners.

year are not identical. It is also possible for a business to pay out for a time more than it produces, thus drawing on what has been withheld in the past. It is this distribution of income among classes of income-receivers which the economist calls functional distribution, meaning thereby only that incomes are received as a result of contribution to the process of production made by the receivers and that they can be classified according to the nature of that contribution.

To the businessman wages, rent, and interest appear as costs. Profits, the business goal of the process, appear to him as a residual—what is left over out of the price of the product after the costs have been met. He naturally tries to keep costs as low as he can and to keep his prices at as profitable a point as possible.[6] The limitations under which he works in respect to prices have already been examined in the section on "Value and Price." The explanation of how his costs—namely, wages, rent, and interest—are determined, and how he manages to make profits even though both his prices and his costs may be beyond his own control, constitutes the staple of distribution theory.

Distribution by government and other nonprofit agencies follows a somewhat different pattern. Nurses, teachers, and policemen must eat like everyone else. They must be paid wages and salaries. Holders of government bonds must receive interest. Hospitals and colleges pay out money incomes as do business units. The difference is to be found in the fact that their power to distribute these incomes (claim checks) does not rest on the returns from the sale of their product but on their ability to levy taxes or to obtain gifts. They differ from business organizations in the source of the income from which they pay wages and in their method of distributing their actual product, not in their method of paying out the value of the product in money to those who participated in producing it. Though medicine in a city clinic is given away, those who produce the medicine are rewarded.

If the role of the government is understood correctly, it will be clear that the collection and spending of taxes, and the production and distribution of services by government, likewise must be taken into account in any serious attempt to determine the distribution of real income among the members of society. For purposes of the study of functional distribution, however, taxes ordinarily are treated as a dead weight, so to speak, on industry, and are deducted, as was done in our example of the cotton factory, before arriving at the sum that is to be distributed. This procedure is proper enough in the study of the business forces that determine distribution, but must be corrected in order to get an understanding of the total of influences that control it.

[6]It is hoped that at this point the students may recall possible exceptions to this set forth in Chapter Fourteen.

The Working of Functional Distribution

If we know how rent, interest, wages, and profits are determined, and if we know also the facts of property-ownership and long-time contracts as well as of taxation, we have in our hands the apparatus that we need in order to discover how the national money income actually is divided, that is, what the personal incomes of the population will be. Men get income either (1) as the rent of durable goods that they own; (2) as interest on money capital; (3) as wages of their labor; or (4) as profits on their business, whether on their individual undertakings or in the form of dividends received from corporations in which they hold stock. The money income of any individual may combine elements from all four of these distributive shares. Rent and interest are paid on the basis of contracts that run often for years or decades. Some of those contracts were made perhaps half a century ago on the basis of expectations entertained at that time. Some of them, on the other hand, were made only yesterday. Some of the contracts made yesterday and today will affect in turn the distribution of income two or three decades hence. The rents and interest rates of the present thus may stretch forward to affect the distribution of income in the future. As long as contracts run, based on those rents and on interest rates, so long do they affect distribution. Many of the rent and interest payments being made today, consequently, are dependent not on today's interest rates or on the rents commanded today, but on contracts made at past times, based on anticipations then entertained. The actual conditions of today may be widely different from these anticipations.

On the other hand, most wage and salary contracts run for a relatively short time—commonly not more than a year at most, sometimes not more than a week or a month, in many cases only a single day. Since such contracts are for a short period, their terms are likely to be more nearly in accord with contemporary earning conditions than are the long-time contracts of the previous paragraphs.

As against the three contractual distributive shares, profits are purely contingent, and therefore, as we shall see, are almost wholly dependent on contemporary conditions. The business enterprise as risk-taker gives a certain conditional guarantee to receivers of the other three types of income by making contracts with them, and itself has what is left, if anything, out of the proceeds of operation. Profits, therefore, are in theory, and to a large extent also in actual experience, the most variable of the distributive shares. In the better-managed corporations, however, the retention of profits carried to corporate surplus in good times, and the drawing down of assets charged to surplus to keep up dividends in periods of slack business, have between them sometimes

brought about a surprising measure of regularity in the distribution of corporate dividends. The distribution of profits to the stockholders of quasi-public corporations is definitely less irregular than that to the proprietors of individual business undertakings.

From the figures of the Department of Commerce it is possible to gain some idea of what the functional distribution of the national income is, though it should be clear that there is not an exact correspondence between the distributive shares of the economists' analysis and the payments of Table XXI.

Table XXI · National Income Produced and Paid Out[7]

	TOTAL IN BILLIONS OF DOLLARS				PERCENTAGE OF TOTAL			
	1929	1932	1936	1945	1929	1932	1936	1945
Income produced	80.7	39.5	63.8	160.5				
Business savings	2.6	-9.0	1.7	4.5				
Income paid out	78.1	48.5	62.1	156.0				
Payments to employees	51.2	31.0	41.3	115.0	65.5	64.0	66.5	71.65
Rents and royalties	3.4	1.5	2.1	11.5	4.4	3.0	3.4	7.22
Interest	5.1	4.9	4.4		6.5	10.2	7.1	
Dividends	6.0	2.7	4.6	4.5	7.6	5.7	7.4	2.80
Entrepreneurial withdrawals	12.4	8.1	9.8	25.0	15.8	16.7	15.8	15.57

The figures for the prosperous year 1929 have been compared with those for the bottom depression year, 1932, the recovery year 1936, and 1945. The phenomenal fall in the income produced in 1932 requires no comment further than the reminder that about half of it is due to the fall in prices, the rest to the fall in production. Whereas, in 1929, 2.6 billion dollars of the income produced were retained in the business instead of being paid out as profits to individual entrepreneurs or as dividends to stockholders, during 1932 payments to the owners of business were maintained, to the extent that they were maintained, only by drawing 9 billion dollars out of business. Of this sum no less than 6.4 billions were drawn by corporations and charged against surplus. During the five-year period 1930-1934 the total of excess business disbursements over receipts was no less than 26.5 billion dollars, which equals more than half of an average year's production during that time. During the same period the corporations disbursed 20.1 billions in dividends and charged 22.7 billions to surplus; that is, they reduced the figures which recorded the surplus by that amount. As a group they charged more than all their dividends to surplus. In reality they paid dividends chiefly out of current receipts, instead

[7] *National Income, 1929–1936*, pp. 11, 16, 18; *Survey of Current Business*, July, 1945, p. 13. The figures are not presented under exactly the same divisions and thus are not precisely comparable, interest and rents being combined in the figures for 1945.

of using that amount of receipts in keeping up plant as they would have done under happier circumstances. A brief consideration of these facts alone would serve to disabuse one of the simple idea that the year's product of goods is automatically divided among individual income-receivers by an exactly corresponding distribution of money income, even without our earlier explanation of the lack of such correspondence. Corporations distribute to individuals a sum of purchasing power in some years less, in others greater, than the value produced by the corporation.

When we consider the great changes in the amounts of income produced and paid out during this period, and the remarkable changes in business savings, it may appear strange that the proportionate payments in the several income categories do not vary more than they do. Payments to employees, absorbing 65.5 per cent of the total in 1929, fell to 64 per cent at the bottom of the depression and rose to 71.65 per cent in 1945. The amounts drawn out by individual entrepreneurs, to take the other element directly connected with personal activity, varied between 15.57 per cent of the total income produced in 1945 and 16.7 per cent in 1932. These amounts include the income received by farmers (7.54 per cent of the total in 1945) as well as that of self-employed businessmen. The share of employees and the individual proprietors together in the first three of the years presented absorbed about four fifths of the total income; in 1945, nearly nine tenths of the total.

Correspondingly, the total going as rent, interest, and dividends ran consistently below one fifth, dropping to approximately one tenth in 1945. This is in part explained by the size of corporate savings that year. The striking decline in rents of land and buildings, cutting absolute payments by more than half and reducing the proportion going to rent by more than one third from 1929 to 1932, is to be explained by the shattering character of the depression, which compelled the owners to consent to a prompt and radical revision of rent contracts. By contrast, the slow and relatively small drop in the amount of interest payments in the face of a sharply shrinking national income brought a sharp increase in the proportion of income going to interest. Long-term interest contracts (as on bonds) usually cannot be revised short of the bankruptcy of the debtor business unit, and the resulting payments consequently may extend forward over a period of years after current interest rates have declined sharply. This is exactly what happened after 1929. These figures show rent-receivers as a group suffering the greatest proportionate loss and bondholders the least, though it is doubtful whether other depressions would show the same results. Dividends, as a contingent share in income, we should expect to fall sharply, both in amount and in proportion, during a period of depression. This is just what they did in 1932. The chief

points of interest in the figures for the year 1945 are the increase in the proportion of the income going to labor and to business savings. In 1929 business set aside 2.6 billion dollars and paid out in dividends 6 billion. In 1945 business set aside 4.5 billion dollars and paid dividends amounting to 4.5 billion. This change in policy reflects the cautious determination on the part of business managers to be prepared for whatever contingencies might arise at the close of the war and explains why dividends during the war did not attain their 1929 level.

As we have said, the figures just reviewed give no exact picture of functional distribution in present-day American industry. The categories of the Department of Commerce study could not possibly be so drawn as to correspond exactly with the terms as we have employed them. Nonetheless, the resemblance is close enough to make the results useful for an understanding of the relative magnitude of the shares of income determined by the forces set forth in each of the four chapters which follow this. These figures, again, cannot be used to determine the division of the national income between "labor" and "property," for the reason, with which we are already familiar, that entrepreneurial withdrawals are partly labor and partly property income. They do show, however, the overwhelming importance of wage and salary payments in our existing scheme of distribution, and consequently the importance of the institutions and forces that determine rates of wage and regularity of employment. As for the other third of the national income, its distribution is intimately tied up with the ownership and control of property, and it is largely differences in the ownership of property that are responsible for the extreme differences of individual income which appear in the figures of Chapter Twenty-nine.

Money Incomes as Claims to Real Income

Before we turn to the question of the way in which the distributive shares are determined, there remains to be considered the way in which the distribution of money income affects the distribution of real income. In the process of production the money value of the product flows out to individuals as rent, interest, wages, and profits or to corporations as profits retained and represented by surplus. Sums carried to corporate surplus are likely to be employed in the purchase of a part of the newly created producers' goods. That is to say, they serve to help distribute to the saving corporations a part of the year's real income produced, in the form of producers' goods.

Money income going to individuals is used in one or more of four ways: (1) to buy currently created services and perishable consumers' goods; (2) to

pay the rent of durable consumers' goods chiefly created before the period in question; (3) to buy durable consumers' goods, for the most part currently created; and (4) for saving. The act of saving is followed ordinarily by the purchase of producers' goods, that is, by investment, but it is well to remember that saving and investment are two distinct processes and that the first is not always followed by the second. This fact has important consequences which we consider later.

These four uses yield widely different effects on the distribution of real income. The first use—embracing expenditures for food, for a large proportion of clothing, for heating, for recreation and other personal services of every kind—is the means of distributing to families directly that body of currently produced services and perishable consumers' goods that constitutes a great part of the total economic product. The process corresponds exactly with the ordinary idea of the way in which the distribution of money income governs the distribution of real income. The second use—chiefly expenditure for rent—though it purchases current satisfaction, does not serve to distribute the product of current industry except in minor degree. Instead, it distributes yearly a part of the product of former industry in the form of a year's enjoyment of all houses in the country occupied by others than their owners.

The third use differs noticeably from the first two. It is not chiefly a purchase of current satisfactions. The family that buys a refrigerator, or a good radio, or a substantial set of living-room furniture, and pays for it during the year buys out of its year's money income much more than this year's services of the durable goods that it has added to its equipment. By buying outright a long-lived product of the year's industry, like the furniture, it has secured for itself the whole series of yearly services that the furniture can render. It thus has ensured itself a participation to that extent year by year in the real income of the future, as long as it continues to enjoy the use of the furniture. It should be specially noted that every family which has come to own its own home thus shares without further payment (save for taxes) in future real income.[8]

The fourth use, differing yet more widely from the others, can be illustrated by a simple example which shows only one among many possibilities. A family of small income manages to save a hundred dollars during the year, and puts it into a savings bank. The savings bank includes the hundred dollars as part of an investment it is making in well-secured bonds of a cotton textile concern, issued for the purpose of building and equipping a new mill. The family's saving has enabled the cotton-spinning company to share to that extent in the

[8]It may be worth noting that occasionally part of the family income goes to pay for goods long since consumed.

distribution of this year's product of producers' goods in the form of mill and machinery. The saving has not, like the first and second uses, affected at all the distribution of currently produced perishable consumers' goods and services or the distribution of the current enjoyment of the previously produced durable goods. Nor has it, like the third use, placed durable consumers' goods in the hands of buyers, thus guaranteeing them a share in future real income. It simply has put producers' goods into the hands of the cotton company and has given the frugal family the expectation, which a conceivable disastrous failure of the savings bank might destroy, of a share in the future national money income to the amount of three dollars a year, or whatever the savings-bank interest may happen to be. Suppose that hitherto the income of this family has come entirely from wages; it hopes in future to receive a slight addition to it from interest. The personal income will be enlarged by the addition of a claim resulting from another of the functional shares. This claim the family can use in any one of the four ways just discussed.

The lack of exact correspondence between income produced and income paid out has already been established. From the paragraphs above, the student can draw his own conclusions about the identity of income paid out and income consumed. In general, income paid out makes up the total of family and individual incomes. If a thrifty family sets aside savings, the income immediately consumed is smaller than that paid to it. To the extent that durable goods purchased in the past are still enjoyed, or that durable goods paid for this year will be consumed in future years, the two incomes differ in amount. Income produced, income paid out, and income consumed are thus three possible aspects of the national income. In amount they are intimately related, but are not identical. In any study of distribution of the national income all three aspects of income are significant.

The Distributive Shares

As our next step we need to return to an examination of the distributive shares, that is, rent, interest, wages, and profits, which are paid, respectively, to owners of natural resources and of producers' goods, to owners of money capital, to laborers, and to enterprisers—to those who contribute to the volume of product which is to be distributed. These are the factors of production discussed in Part I. By the enterpriser himself the first three payments are looked upon as costs of production, payments for the use of productive agents. To society in general, profits also may be considered a cost—payment for the services of enterprisers. To the individuals who receive wages, interest, rent, and profits they are income, the amount of which depends partly on the

ownership claims each holds—entitling him to a share in the total flow of rent and interest—and partly on his own effort, the market value of which comes to him in the form of wages or, under some circumstances, of profits.

In the distributive shares into which the national income is divided, we have a set of price problems which, with certain qualifications that will presently appear, are to be explained, as are other price problems, by market conditions of demand and supply. It will be remembered that in studying the pricing of consumption goods we found this formula meaningless until we understood the significance of the words "demand" and "supply," and the influences which determined the demand and supply schedules. This is equally true when we consider the pricing of the agents of production, but here the problems are vastly more complicated. To establish the price of labor (wages) is more difficult than to establish the price of bread or of blankets. The demand for productive agents is an indirect or derived demand—not based on utility, for they have no utility. They are desired for their productive power; someone desires, or by insistent advertising can be made to desire, the good which they, in combination, will create. The enterpriser who acts as the immediate demander of a productive agent—as labor—sees the problem as a cost-and-profits problem. He would say that his demand was occasioned by the profit which he believed he could make and that that profit depended upon the future demand for his product and the cost of his factors of production. That is, he works within limits set by prices which he probably thinks of as already determined, or at least to be determined, by forces outside his control.

A second difficulty in studying the pricing of factors of production was implied in the words *in combination* of the preceding paragraph. Factors are not used alone. The amount of one factor used is an influence in determining the demand for the other factors. A change in the price of any factor may result in a change in the price of all the factors. Productive agents are by no means unique in this. Many consumption goods are used together: a pen calls for ink; cranberries for sugar. But productive agents are always used in combination, so that any study of demand for them must be a study of proportional demand.

A third difficulty sometimes results from confusing the amount of the product with the value of the product. The difficulties resulting from the complexities of the demand and supply schedules and from the need to think of combinations of factors—not single factors—are inherent in the subject; the difficulty which results from confusion of physical amounts and values can be avoided by taking thought. To the businessman the significant decline is the decline of value, not that of volume.

Diminishing Productivity

In all production there is in general operation a law of diminishing productivity. Put into economic language it says that if one factor of production, say labor, is increased while the others are held fixed, the total output, though for a time it may increase as much or even more than the variable factor is increased, will eventually increase at a diminishing rate. Any gardener knows that if on a piece of land he adds more and more fertilizer, his total product will not continue to increase at the same rate at which his fertilizer increases. Any farmer realizes that while two hired men may double, or perhaps more than double, the output of a given area, three will not be likely to treble it. Any efficient factory-manager appreciates the fact that on given floor space machines may be added to the point where another machine does not add to the total the amount added by the early ones.

The simplest possible example will illustrate the principle. Suppose the yield of potatoes from a given field on which one man works has been 40 bushels. If two workers were set to cultivating it the yield might be raised to 55 bushels. It is most unlikely that it would be 80 bushels. The second man would do as much work and as good work as the first, yet the yield which resulted from the addition of the second man would be but 15 bushels. This we should call the marginal yield, the amount added to the total product by the addition of a unit of a factor of production. It might also be defined as the amount subtracted from the total by the withdrawal of a unit of a factor. Since the workers are, by hypothesis, exactly alike and do exactly the same work, the addition of either would increase the yield by 15 bushels; the withdrawal of either would decrease it by 15 bushels. Suppose the farmer, instead of an additional worker, adds a second potato field exactly like the first one, keeping all other productive agents as before. He has no more laborers, no more fertilizer, no more machinery. He may increase his yield, but, again, he is not likely to double it. As he adds increments or units of any single agent, he fails to obtain (or to continue to obtain) a relative increase in his product. To this point we have been observing the operation of a general law which is at the root of economic scarcity. The problem of the farmer, though it arises from this law, is not a problem of amount of product but of value or price of product compared with other prices. He must determine at what point the addition to his revenue resulting from the addition of a unit of any one of his factors of production will balance the cost of adding that factor. To that point he must go if he is to obtain maximum profits; beyond that point he must not go. In Part Three we learned that for his greatest gain his production must be carried to the point where marginal cost balanced marginal revenue. Here

we add that he must use a factor of production to the point where the cost of a unit of that factor is balanced by the value added to the total by the use of that unit. But he is not granted the comparatively simple situations of our illustrations. His factors work together; no one of them alone can create a product. He may and does vary not one but all of them in an attempt to find the perfect proportion. How much of each? How much all together? If he is to make all possible profit, each agent must be carried to the point of balance between cost of a unit of the agent and value of product, but what that balance is depends not only on the price of his product and the cost of the single agent but on the cost of all the other agents as well. Underlying the demand schedule of every enterpriser is his estimate of the marginal value product of each agent in the best possible combination. Insofar as his factors are substitutes one for another, he will vary their uses as relative prices change. If labor is expensive, he may use more machinery; if labor is cheap, much will be done by hand. His aim is to combine his factors in such a way as to obtain his product at the lowest possible cost combination.

Turn now from the individual producer, who makes his decisions on the basis of his price and cost expectations, to the market in which he expresses these decisions. Here individual entrepreneurs compete with one another for the use of productive agents. Just as consumers go into the market to make larger or smaller purchases depending on the prevailing price, so the entrepreneurs, with demand schedules based on calculations of marginal productivity, make their bids for productive factors; and just as consumers' competing demands largely determine market prices, so the competition of the entrepreneurs determines the prices of the factors they buy. We should conclude that in a perfectly competitive market those prices would be such as to assure full utilization of resources; that is, all resources (factors of production) available at the market price would be used, and all enterprisers willing to pay the market price would obtain control of factors of production. Why full utilization of resources seldom comes about should be clear to the student after a study of later chapters.

We may now restate the theory of marginal productivity in more general terms, remembering that it is an attempt to show how the demand schedules of enterprisers are determined and how they affect the market rate of payment for the agents used in production. Questions which relate to the determination of the supply of these agents we leave for discussion in the chapters which follow. The theory posits given amounts of each of the four agents, all subject to the law of diminishing productivity; it assumes that industries compete with one another for the use of the available stock of each agent, that the various units of each agent are homogeneous and therefore interchangeable,

and that they move freely from industry to industry and from place to place. During the time period under consideration there must be no change of desire on the part of consumers or of technique on the part of producers.

Given these conditions, what will be the price of units of the factors of production? Clearly, in a system working perfectly (as no system does), it could not be greater than the value of the marginal product obtained by using the unit. No enterpriser would purchase units of labor or capital or natural resources at prices higher than their expected yields. If he offered less than the value of the marginal product, other entrepreneurs could and would outbid him. Also, under our assumptions, the units—all alike—would all command the same price wherever they were used; for if homogeneous units of labor commanded higher rewards when employed as riveters than as welders, laborers would move to riveting until the marginal productivity of this occupation was leveled to that of welders. This is not to be interpreted as meaning that the skilled worker and the unskilled will receive the same wage. They are not homogeneous and interchangeable units.

The marginal-productivity theory of distribution thus undertakes to show that under perfect competition the entire product of industry would be divided among the various agents of production or their owners on the basis of the contribution of those agents to production. It does not maintain that competition is perfect. No exponent of the productivity theory thinks that he is describing the productive process as it actually works. Monopoly and limited competition, as we know, are prevalent throughout the economic order and interfere with the smooth working of distribution in accordance with the marginal contribution of the factors to the total product. Nevertheless, marginal productivity is undoubtedly the most important single force in our society determining the distribution of income.

CHAPTER TWENTY-FIVE

Wages

WAGES are loosely defined as payments for labor. The normal person satisfies a large part of his own wants directly by his own activities, exercised individually or co-operatively in the family and in other groups. Such activities include the whole play side of life in its broadest interpretation (excluding commercial sports) and also that large area that we found it necessary—for purely practical, not logical, reasons—to exclude from consideration in studying the operation of our price-bound economy. In that area our most important exclusion is that of productive activities within the family. With these exceptions in mind, we define labor as human activity exercised for the purpose of creating utility and not simply for the pleasure of the activity itself. It may be accompanied by the highest joy, as in the creative labor of the artist, or by actual suffering, as in the labor of a half-ill worker at the end of a long day of heavy, distasteful, and monotonous work. In either instance it is labor, and the payment commanded we call wages.

This word, however, is used in many different senses, and much confusion of thought is occasioned thereby. To avoid obstructions to clear thinking it may be well at once to distinguish some of these uses. First comes the familiar distinction between money wages and real wages. Practically all discussion of wages is unavoidably in terms of money; yet our actual concern is with real wages. We want to know what money there is in the pay envelope only in order to know what that money will buy of the goods which yield the worker's livelihood. Figures of money wages must be read in connection with a knowledge of price levels if they are to tell us anything worth knowing. A 5 per cent increase in money wages at a time when the cost of living in the community has risen 10 per cent is no real increase; higher wages in a city in which rents and retail prices are high may actually mean lower real wages, a possibility to which reference was made in the discussion of index numbers. Second, and no less confusing, is the distinction between wage rates and wage earnings. Wages of unskilled labor at a particular time and place are 50 cents an hour. We are thinking of a rate. At the same time and place an unskilled worker says his wages last year came to $800. He is thinking of his earnings for the year. Perhaps he worked only 200 days. A carpenter receives $10 a

day. We speak of his wages as high. Suppose he works but 125 days during the year, as a study in *Fortune* suggests; his earnings are low. Rates and earnings both represent wages. That they are not the same thing any unemployed man can testify. The earnings of a given period represent not only the rate per hour or day or week but also the amount of time the recipient was actually at work during that period. Thus in any question of earnings unemployment at once demands attention. The economist in attempting to explain wages is usually first concerned with rates, and it is with that meaning that we shall use the term "wages" unless otherwise indicated. It is obvious, however, that any adequate treatment of wages must deal ultimately with earnings as well as with rates.

Thirdly, the economist includes in the term "wages" both wages in the usual sense and likewise salaries, which he regards as wages paid under a special type of contract and under special conditions. In his view the $5000 annually paid to a clergyman or the $15,000 paid to a high-grade research chemist by an industrial concern are just as truly wages as are the $1000 of the pick-and-shovel man. We shall suggest in a moment, however, that not all salaries can be so regarded.

The fourth distinction to be noted is that between wages of persons who work for others and of those who work for themselves. A large part of the "profits" of ordinary small-scale business is in reality nothing more than the proprietor's wages if we choose to think of his earnings in that light. We shall not use the term "wages" in this sense, but it is important for the student to have in mind the substantial fact represented in this view. A village carpenter with a single helper, perhaps as good a carpenter as himself, does small jobs on contract. He figures the cost of materials, estimates his own wages and those of his man, adds to the total a small percentage to cover the chance of error, and makes his price. Plainly what he makes on the job is largely his own wages. A farmer makes $1000 in a year working his own farm. He could have made as much working for somebody else. His income may correctly enough be thought of as nothing more than a return for his labor, as wages in the broad sense. In this sense all individual business proprietors earn wages, and many receive nothing more; and in this sense wages constitute what is sometimes thought of as "labor's share" in the product of industry.

Our discussion narrows the concept somewhat and deals only with payments made to workers under a contract of employment. This restriction of the term to payments made by employers to employees is largely for convenience of treatment and is not meant to imply that part of the returns to small businessmen do not belong in the economist's category of wages. Without

question they are wages, and the student will be able for himself to select from what follows that which applies to this type of wages. Contracts of employment cover everything from daily or hourly hirings of unskilled labor up to the life appointments of justices of the Supreme Court. They often include commission, premium, bonus, and other incentive features—sometimes based on the profits of the business, but not involving the carrying of its capital risks. Thus a life-insurance agent may work purely on commission, with a drawing account. His earnings are pure wages, though their amount, according to his contract, depends wholly on his own success.

The matter is by no means so simple in respect to corporation executives, who in many businesses—like Bethlehem Steel and General Motors—draw fat salaries and in addition receive bonuses, sometimes huge ones. Their earnings may perhaps by a stretching of language be called wages, and doubtless the stockholders commonly think the executives earn all they get. We shall consider their takings as of the nature of corporate profits allocated by management to itself rather than to the stockholders, and dependent only in minor degree on the considerations that determine wages. Men who are in a position to decree to themselves salaries and bonuses running to six figures are not getting wages in any meaningful sense of that term. Such payments are in fact profits and not wages, as we draw the line, and clear thinking is in no way served by trying to assimilate them to wages.

Wages, as we shall use the word, thus have two characteristics. They are payments for labor, and they are payments by an employer to an employee. They are pure labor income, but they do not constitute the whole of labor income. They presuppose an economic organization in which some men work for others or, more commonly, work for corporations or the state. Wages thus embrace all income received by employees as such, whether they be unskilled laborers, skilled craftsmen, office personnel, corporation officials (except as previously noted), university professors, motion-picture stars, or government employees from President down to dog-catcher. The term includes both wages, paid daily or weekly, and salaries, paid on a fortnightly, monthly, or yearly basis. Probably almost four fifths of all persons engaged in industry are wage-receivers, and in some lines of production, as in railroads and other large corporate and government undertakings, practically the whole personnel falls within that category. Wages thus constitute the basic income of nearly four out of five of all the gainfully employed of the United States. During the past dozen years wages have made up from 65 to 72 per cent of all the income paid out by industry. Clearly it is of the highest importance to understand, if possible, how wages are determined.

Wage Theory

The task of wage theory is a double one. First, it must explain why, at a given time, wage rates generally are high or low in one place as compared with another, and why they are high or low in the same place at one time as compared with another. It must explain, that is, what is called the general level of wages (a term no less misleading than the general level of prices). Why are the real wages of Canadian carpenters higher than those of French carpenters, the salaries of Canadian teachers higher than those of French teachers, and so on through the long list of occupations? Why is the general level of wages higher in Canada than in France? Again, why do workers of all classes in the United States get more now than they got a century ago? In some instances it is several times as much, whether one thinks of money or of actual goods and services. Why has the general level of wages in this country risen so sharply during the past hundred years?

Secondly, having searched out the forces determining the general level of wages, wage theory has the task of discovering what influences bring about wage differences at a given time and place. Why are a carpenter's wages so much above an unskilled laborer's, a locomotive engineer's above a carpenter's, a division superintendent's above an engineer's? The problems of wage theory, then, are, first, what forces determine the general level of wages, and, secondly, what forces cause wage differences? It will be discovered that the two questions cannot be kept entirely separate; yet they are distinct questions.

In the United States there has been in the past an extraordinary wealth of natural resources in the form of fertile lands and mines and virgin forests. This fact was emphasized in Chapter Four, which may well be recalled at this point. From the beginning, a day's work in most undertakings in the United States accordingly turned out a materially greater product, a larger output of actual goods, than a day's work almost anywhere else in the world. This large output in the beginning was due almost exclusively to the rich resources with which labor worked; for American labor, while ambitious, intelligent, and resourceful, was no better than the west-European labor from which it sprang. Because it worked on rich land, in rich mines, and in rich forests, however, it turned out a large physical product.

The richness of American resources thus made labor of great value to employers who had control of such resources and who had a profitable market for the products to be made by using them. Without hired labor they could not turn out the large product that the resources made possible. Hence they were willing, at need, to pay high wages. Further, as machine production became the dominant method the capitalist employer, owning both the machine and

the natural resources to be turned, with the aid of the machine, into a rich output, continued, at least during the long years of our rapidly growing population and consequent expanding consumer demand, to find labor highly and increasingly productive, and hence worth high and increasing pay. The output per employee rose rapidly with the increasing use of machinery, and a growing amount of income was available for the laborer. What we are saying here is that in the United States the national income to be divided has been relatively large. Economists, after explaining what makes industry more or less productive in different places or at different times, must discover what influences determine labor's share in the flow of income. Were it possible to say labor produces so much and therefore receives so much it would be simple, but all agents of production work together. Labor without capital or natural resources produces nothing.

Labor as Something Bought and Sold

The late Samuel Gompers, for nearly half a century the official leader of the organized labor movement, in 1914 succeeded in having written into the law of the United States this sentence: "The labor of a human being is not a commodity or an article of commerce." Despite Mr. Gompers and the law of the United States, it is plain at first glance that the labor of a human being, in a system like ours, is a commodity or an article of commerce if by those terms we mean something that is bought and sold; for labor is bought and sold just as truly as are shoes or sugar or automobiles or tickets for a movie. Wages are the price of labor in the market. The price of labor, as of other things that are bought and sold, depends fundamentally on the conditions of demand and supply. We may think it undesirable or even wrong to have it so, but it is a fact. When certain dress-manufacturers during the depression could find in some places as many women as they wanted to hire who were willing and eager to sew for them at three and four dollars a week, three and four dollars were the wages paid. The manufacturers could truly enough attribute such wages to the plentiful supply of labor, even at these low rates. The decline in demand only served to make this supply evident. When during the first World War manufacturers found it necessary to pay a hundred dollars a week to machinists and five or six dollars a day to ordinary laborers in order to get the necessary help to keep their munitions factories operating at full speed, it was the tremendous demand for labor that drove wages up to fantastic heights.

The student is reminded again that the formula, demand and supply, tells us nothing whatever without further analysis. What conditions give rise to a demand for labor? To what extent is the demand for labor an elastic demand?

Why does the demand change from time to time? It is clear that the demand for labor arises from the desire for goods and is thus a derived demand, as is the demand for all the agents of production. The demand is the demand of employers who want labor not for itself but as a necessary means of producing goods; unless they want to produce goods they have no desire for labor. This demand arises directly from two groups: in major part, from business employers; in minor part, from nonbusiness employers. In the first group the spur to demand is the hope that profits will arise from the ensuing production of goods; in the second, the lure of profits is not the motive force for production. Let us restate these points. Underlying the demand for consumers' goods is utility; underlying the demand for labor (as for all productive factors) is productivity, which to the business employer means the power of producing goods which he believes will sell at a profit. The nonbusiness employer also is interested in the product, but with him the product is desirable for itself, not because it is to be sold at a profit. He may intend to give it away.

Nonbusiness Demand for Labor

Nonbusiness demand, though it is important, may be dismissed briefly. It is (1) the demand of individuals for the labor of domestic servants and all other workers who satisfy their wants directly; (2) the demand of nonprofit-making private organizations like colleges, hospitals, and churches for the labor of teachers, nurses, orderlies, preachers, and other employees of all kinds; and (3) the demand of government in all its branches for the labor of employees of every variety, from janitors to judges. This nonbusiness demand is for labor to satisfy directly certain individual or collective wants, with no thought of money profit to the employer. The total of such nonbusiness demand is large, adding up to several millions, but under normal conditions it absorbs only a small fraction of the fifty millions or more who make up the class of would-be employees.

Several facts about this demand deserve special notice. First, it is probably an inelastic demand, though figures to prove that statement would be difficult to supply. It may be that the volume of employment in our first group of nonbusiness employers would change rapidly with changes in wages, but that of the second and third groups would show slight response to wage fluctuations. Secondly, it is definitely steadier through periods of changing conditions than the business demand. Government and endowed nonprofit private organizations continue their activities through good times and bad, so that their workers enjoy unusual stability of tenure, and there is a considerable body of

domestic servants and other retainers whose employment is not imperiled by an ordinary depression. Thirdly, the wages of labor in the nonbusiness fields are in many cases not closely related to the wages of corresponding labor in business. Government salaries in executive positions, for example, are notoriously below the corresponding pay in the business field, in part because of the greater security just noted. In thinking of the demand for labor in various fields, we therefore must be careful not to add together indiscriminately business and nonbusiness demand—though to a large extent they appear in the same market, occasionally in active competition with each other.

Since nonbusiness is steadier than business demand, it assumes increased relative importance in times of depression. Recent study of solutions for unemployment has given much attention to the possibility of actually increasing government demand at such times, as a counterweight to the decline of business demand. Under a planned program of useful public works governments might wisely borrow heavily during depression, when both labor and materials are relatively cheap, to carry out long-time construction programs. Two results thus would be accomplished. Public works otherwise unavailable might be brought into existence, and the volume of employed labor might be at least in part maintained at a time when business demand had fallen off sharply. Government demand for labor of certain kinds would be thrown into the breach to aid in preventing both unemployment and the breaking down of wages rates.

Business Demand for Labor: Marginal Productivity

The greater part of the demand for labor is the demand of business enterprisers carrying on industry in order to make profits. To every employer the situation is, no prospective profits, no employment. Underlying the employment plans of each enterpriser is a belief that the productivity of the workers will be such that at the current wage the enterprise will be a profitable one. This is not to deny that the businessman sometimes carries on for a time at an actual loss in order to keep his men employed; but he does not and cannot run a relief station. Normally he anticipates a sale at profitable prices for the product he plans to turn out.

To understand his demand we need to make use of the idea of marginal productivity, of the preceding chapter, in relation to wages. This explanation asserts that under conditions of free competition the worker tends to receive as wages the value of the marginal product—that is, the product added to the total by the employment of an additional worker or group of workers, or that which would be subtracted from the total if a worker or a group of workers

were dismissed. Roughly the argument goes thus. Entrepreneurs, the bidders for labor, hire labor so long as each laborer or labor group adds to the product a value at least as great as the wages he or they must be paid. But as more labor is hired, its proportion to the other productive agents increases; it must be used with poorer and poorer land and other factors; and its marginal productivity declines. Since workers compete with one another, none, in accordance with the familiar marginal principle, is worth more to the employer than the man at the margin, as anyone can replace any other. Therefore the maximum of wages that an employer can pay is set by the marginal product of the labor employed. If Employer Abbott exceeds this maximum he is reducing his possible returns, because each worker will not be adding to the product as much as his wage. On the other hand, if Abbott is paying less than the value of the marginal product, then his competitor, Barton, can afford to, and will, offer Abbott's employees more, since Barton will make money by hiring more labor at any wage up to the value of the marginal product. Thus, by the operation of competitive forces on both sides, it will be unerringly brought about that the worker automatically gets wages equal, and no more than equal, to the marginal product of his labor. It seems too simple to be true, and of course it is not true in any such precise way as it is stated here, but the fact that frictions of many varieties prevent the perfect consummation of this result does not mean that the principle is not operating.

The marginal-productivity theory has performed three useful services. First, it has directed attention to the current product of industry, and not to existing capital, as the source from which wages must be paid. Secondly, it has properly emphasized the possibilities for the increase of wages inherent in improved organization and technique and the growth of capital. Thirdly, it has suggested that wages in any particular line cannot be raised above their marginal-productivity level without creating unemployment in that industry. An enforced increase in the price of the product, made necessary by the increased wage, would lower sales, thus reducing employment and in so far, despite the higher wage rate, lowering the total earnings of labor in the industry affected. Or the higher cost of labor would cause the employer to dispense with some of his labor in favor of labor-saving machines. In either event the result would be unemployment. These are questions concerning the elasticity of the demand for labor—questions of much practical importance, about which we need far more knowledge than we have. From what is said here it must not be assumed that all wage increases must result in unemployment. If the employer is able to substitute machines at no great expense, he will do so. That is, given substitutes for labor his demand will be an elastic one. A higher wage may then cause a considerable decrease in the number employed. But

suppose the higher wage constitutes so small a portion of the total cost of the product that it occasions no increase in price and decrease in amount sold. Under such conditions an increased wage need not be followed by a reduction in the number employed. It is by no means safe to assert as a universal conclusion that an increase in wages always results in unemployment. The statement here made was that if a particular wage were raised above marginal productivity that result could be expected.

The marginal-productivity explanation, hedged about with reservations and qualifications, is the most illuminating explanation of wages offered by students of wage theory, but we must remember its assumptions when applying it to the facts of the industrial world today. Particularly does its assumption of perfect competition on both sides of the wage bargain bear little resemblance to reality.

How is this related to the demand of an actual employer, be his enterprise farm or beauty shop or steel corporation? It depends on the demand for the product of the enterprise and is limited by its technical equipment. The farmer has a farm in whose operation he needs the help of two hired men. He is likely, for reasons we already know, to hire two men pretty steadily as long as he can keep his farm running. His demand is for two hired men, perhaps at prices ranging all the way from $25 to $40 a month. That is to say that his demand is inelastic between these two wage rates, because he cannot run the farm at all without two men. With his equipment a third man would not add to total product the amount of his wages. Should wages fall lower than $25, he might add a third man; should they go above $40, he might give up the enterprise. How many assistants the beauty-shop proprietor employs depends on the amount of her business, on the equipment she has, and on the wages she must pay. This is only to say that her demand is not completely inelastic, even under the existing limitations of her equipment.

A steel corporation has a plant built to employ two thousand men. By running two shifts it can employ four thousand. At capacity, on a three-shift basis, it can absorb daily six thousand man-days of labor. That is the limit of the corporation's employment of labor in connection with that plant. No matter how low wages fall, it can take no more men. To what extent will a decrease in wages cause it to add the second two thousand, or the third; an increase, to reduce the number of employees to two thousand or fewer? That is a problem of elasticity. The mere statement of the problem makes it evident that it is not the important problem in industry today—though it is not to be ignored, and we shall return to it later. The steel plant has employed four thousand men. Business declines, and it puts the entire force on part time. We have a new and decreased demand. Finally the slump grows worse, the

fires are drawn, and the whole plant lies idle for six months. Apparently there is in this plant no demand for labor at any wage. This change in demand resulted not from shifts in wages but because employers lost faith in the future possibility of selling their products at a profit. Their lack of belief in future productivity reduced employment to zero.

To put the story in logical order, at any given time the demand for the products of industry, created by those who have and choose to exercise purchasing power, is reflected backward to businessmen, who, in turn, seek to bring into existence the products wanted. In so doing they utilize existing methods and equipment, in their turn setting up a demand for the materials and labor required. The business demand for labor thus depends on the anticipated value of what labor helps to produce. But once the businessman loses faith in a future market, his demand declines rapidly. It is therefore his calculations of future marginal productivity which determine his demand.

In these illustrations we have assumed a given technical equipment and a demand for labor in connection with this equipment. Let us go a step further. The proprietor of the beauty shop foresees a rapid increase in business because of changes in style, or perhaps because of a general increase in the income of the community. She doubles her equipment and must also double the number of her employees. The influence of this action, if it is one of many similar expansions, may induce larger investments and greater employment in the shops where such equipment is made. The steel plant, when it has reached the limit of six thousand employees, may by additional investment expand its existing facilities and put more men to work because of that expansion. The belief that there will be profitable sale in the future for railroad engines, for machine tools, for iron and steel, brings additional investment, which increases the demand for labor throughout industry; the contrary belief causes a contraction of investment and of employment. We already have referred to the possibility of increasing the nonbusiness demand at those times when investment has declined and the business demand for labor has fallen. To this we revert in Chapter Thirty-four.

The Demand for Particular Kinds of Labor

To speak of the demand for labor in "general," as has been done in the preceding pages, is like speaking of the demand for things in general. One expression means no more than the other. Realistically the demand for labor must be thought of not in general but as a sum of particulars. Each particular is a demand at a particular time and place for a particular kind of labor. It may be the demand of a suburbanite for the labor of a boy for three hours

to mow a lawn; the demand of a small town for the labor of one man for a year as a policeman; or the demand of a steel company for the labor of two thousand workers, who must be thought of not as two thousand separate and homogeneous individuals but as a group of definite technical composition—with a certain number of engineers, rollermen, sheet-handlers, crane-operators, electricians, repairmen, unskilled laborers. Each kind of labor is needed in certain relative quantities, determined by the requirements of the particular plants. The sum total of such particulars constitutes the "general" demand for labor. The demand for labor of various kinds, as opposed to the demand for labor in general, depends to a large extent on the prevailing technique of industry. In the days of hand weavers there was a demand for the product of their looms. With the coming of the power loom the product was cheapened, and the demand for the weaver's labor at any wage on which he could live fell to almost nothing. In place of the demand for the hand worker there developed a demand for the labor not only of power-loom weavers but of the men who built the power looms and kept them in order, of those who built and ran the steam engine that moved the looms, of those who dug the coal that fed the engine, and so on through all the endless ramifications of machine industry. Every modern industrial unit calls for a variety of different kinds of labor. They are needed in more or less fixed proportions, depending on the nature of the processes and machinery used, and are modifiable only in minor degree if the most economical results are to be obtained. New inventions, new processes, and new organization are constantly changing both the absolute amounts and the proportions of the various kinds of labor needed. Stability of demand for labor of a particular kind over a period of time has become almost unknown.

The Supply of Labor as a Whole

At this point we need briefly to review the substance of Chapter Five, which dealt with the stock of labor. We must take care here, as elsewhere, not to confuse the stock with the supply. Closely related though they are, they are not identical. Both depend basically on population and change with changes in population; but not all the population belongs to the stock of labor, and at any given moment not all the stock is offered as part of the supply. Malthus's theory of population seemed to demonstrate that the population was bound to grow in such a way as to produce a relative oversupply of labor. The dismal corollary was that wages could never, except temporarily, rise above the bare requirements for the subsistence of the laborer. But population is not labor, and a laborer is not automatically labor supply, as employers often

discover when a strike occurs. Labor supply depends not on the total population but on the number of persons able and willing to work for others, and the length of time which they will work, at any possible series of wages. It is therefore affected by the age and sex of the people, their health and character, their skill, intelligence, and training. It is also the result of the wealth of a country, its customs, and the prevailing form of business organization. If compulsory-education laws keep all children in school up to fourteen, children under fourteen are no part of the labor supply. Neither are cripples and invalids, insane and feeble-minded persons, men and women too old to work. Among the persons of working age, physically and intellectually capable of working, there are great numbers who are no part of the labor supply. Such are the millions of women who work as housewives and mothers in their own homes, leaving the earning of the family income to other members of the family. Their work is immensely important, but their services are not offered for sale. Only if they work for pay, or desire such work, do they become part of the labor supply. Another group outside the labor supply consists of persons of working age who live on their incomes.

The supply of labor as a whole at any time is the quantity of labor of all kinds offered for sale, at whatever wages they will take, by those persons, and by those persons only, able and willing to work for others. If a farmer loses his farm and has to "hire out," the labor supply is increased. If three proprietors of a small factory sell it to a combination and themselves go to work for the combination in a supervisory capacity over their own plant, it is increased. If half a million young people come of working age and have to look for jobs, it is increased. If twenty thousand seamen go on a strike for better pay, it is decreased; but if the garment-manufacturers of New York lock out twenty thousand employees, it is unchanged. If four hundred thousand miners who have been working for six dollars a day decide that they will not work for less than eight, it is decreased; but if mine operators who have been paying eight decide that they will no longer pay more than six, and their men strike in consequence, again it is unchanged.

However much some men prefer security to adventure, there are large numbers who prefer on the whole to work for themselves rather than for others. Hence labor supply is decreased by conditions and institutions that make it easy for men to earn a living independently, and increased by those that make it hard. Thus our frontier throughout its entire existence operated to decrease our labor supply by offering opportunities for independence. On the other hand, the growth of large-scale industry, by reducing that part of the industrial field in which a man could make a living on his own, helped to bring about an increase in the labor supply. People could no longer work for

themselves and so had to work for the bigger enterprises. Similarly, the growth in the amount of capital required to run successfully even a small individual business has worked against the possibility of setting up such undertakings and has thrown would-be small businessmen into the group of workers for hire. The labor supply thus is affected in important degree by institutions and conditions that tend to alter the relations between the numbers of independent businessmen and of hired workers. The United States is rapidly passing over into the state, known in Europe for centuries, in which the transition from the status of worker to that of independent businessman is hard, not easy. Socially the change may mean the sharpening of class lines; economically it certainly means the somewhat more definite determination of the labor supply existing within a given population.

Noncompeting Groups

The important facts about the labor supply are by no means wholly determined when we know the total numbers of workers for hire and the amount of time they will work. We must know also their distribution among the various groups into which they fall, and the various prices at which they are willing to work. Just as demand for labor must be broken into demand for particular kinds of labor, so supply is not supply in general but supply of particular varieties. A night watchman does not compete with a high-grade salesman any more than a jinrikisha competes with a motorbus. The existence of noncompeting groups is one of the most significant facts of labor supply. The industrial destiny of the rank and file of workers is determined for life when they quit the process of formal training and take up a job. A boy leaves school at fourteen, as early as the law allows, because his family is in need. He gets an unskilled job, and in three or four years perhaps is making as much as he will ever earn. Very likely he marries early, and is chained for life to the task of trying to support a family on the wages of an unskilled laborer. Always the ranks of the unskilled are kept full by this process. Always, in consequence, unskilled labor is to be had for a mere pittance. Always the cost of products that embody large amounts of unskilled labor is kept down by the low wages paid. Always the prices reflect the costs, in the indirect fashion suggested in our section on value. Thus the economist is able to point out, truly enough, that wages of unskilled labor are low because of its low marginal productivity. Hence unskilled laborers continue a separate group, with their pay more or less independently determined. Of course the children of unskilled workers are not always unskilled workers themselves. Everyone knows plenty of examples to the contrary. Still, by reason of their limited opportunities, they

are likely to be caught in the same net that ensnared their parents. The mediocre child of an ordinary unskilled laborer is far more likely to grow up an unskilled laborer than is the mediocre child of a lawyer, a college teacher, or a bank president.

Next above unskilled laborers in the wage hierarchy are the semiskilled workers, who must be distinguished from the "common labor" so much despised by the skilled American artisan. This group includes workers who have some acquaintance with machinery and some skill in its operation—like truck-drivers, for example, and those who fill the minor positions in the white-collar occupations such as salesmanship and clerical work. In general these workers are likely to have somewhat greater manual or intellectual skill than unskilled workers; they may have more training; they may have both. They are certainly less numerous than the preceding group, who cannot compete with them for these better jobs. They get better pay than the unskilled, and they are likely to have slightly less insecurity of tenure.

In the third group we place skilled workers of all kinds whose work does not entail a large degree of administrative or directive responsibility. As we go up in our grouping, the groups become more diversified and specialized within themselves. Carpenters and locomotive engineers and good insurance salesmen are scarcely less noncompeting groups than are carpenters and unskilled laborers. The skilled-labor group includes not only skilled artisans, machinists, and manual workers of every kind whose work requires specialized skill and training, but the corresponding workers in mercantile establishments and offices of all sorts. Further, the great body of graduates of our engineering and professional schools, as far as they do not go into business for themselves or do not attain to important executive positions, where their functions are essentially those of management, belong to this class. The diversity of skill and training in the group of skilled workers, as we have defined it, is thus very wide, and diversities of pay are no less great. Members of these groups, practically without exception, have a longer period of training than those in the classes previously noted; and it is probably true that in general they have a richer native endowment—intellectual or other—though abundant exceptions are to be observed, particularly in the most common posts. Lavish schooling and abundant opportunities have put millions of mediocre men into these positions, where they perform the common run of high-grade tasks in an acceptable manner, while lack of a chance has kept countless numbers of reasonably good men down. It is by no means true that native differences of mind and character alone sort men out into these groups. No society has ever succeeded in removing the handicaps of the children of the poor.

The labor group at the top embraces the relatively small number of workers

of outstanding ability, notably of the executive type. Our present economic organization puts a premium on their services, because such services can be made highly profitable in the running of large-scale undertakings. Therefore such organizations are willing to pay fabulous sums for workers of this type. Such men are likely to move rapidly to important executive posts, where their duties are primarily management functions, and they come to be identified with the employer rather than the employee interest. Moreover, as was earlier pointed out, their pay is likely to come not only from a regular salary but from bonuses and other profit-sharing devices that tend to separate them from members of the employee class, who look for income in the form of a fixed-contract return for their labor. While some men, if they have reasonably good native ability, are probably born to this group, so to speak, it is for the most part recruited from those persons, wherever found, who possess in unusual degree the special qualities that make good executives. Such qualities are not necessarily the highest human qualities, but they are those that are most richly rewarded in material fashion under our present economic arrangements. For reasons already suggested we prefer to look at this group of workers as primarily members of the employing class and to classify their earnings as a share in profits rather than wages.

The importance of the noncompeting groups results from the difficulty, often the impossibility, of moving from one to another, while within each group there is always likely to be an active measure of competition and therefore similar pay. In consequence the income of any worker, contrary to the ordinary American tradition, depends basically on the wages of the group of which he is a part, and in only minor degree on his superior or inferior skill within that group. The degree to which the groups are noncompeting is the degree to which movement from one group to another is difficult, and the degree to which wages within a group approach equality marks the degree of mobility within the group. Because the groups are noncompeting, the wages of one group may vary with little relation to changes in the wages of another. Further, there is no foreordained relation between the wages of various groups. That relation may be changed by a great variety of influences that change, on the one hand, the comparative demand for the different kinds of labor or, on the other hand, their comparative supply. For example, if you increase educational and social opportunities for all children as far as you can, irrespective of the income of their parents, you set in motion a force likely to decrease the relative numbers of unskilled workers, and in so far to raise the wages of that group in comparison with those of others. You lower the barriers between the groups and make movement from one to another easier.

From every point of view it is desirable in a would-be democratic society

that the barriers between noncompeting groups should be lowered as far as possible, and particularly that entrance to the higher groups should not be barred to the children of the poor. That "the destruction of the poor is their poverty" is a saying that applies with full force to their children. From the purely economic point of view it is important for workers to be sorted out for their tasks and trained for them on the basis of native ability and not of social status. Nepotism is an ancient curse of class societies. As the frontier grows more remote, and the corporation more dominant, the problem of creating equality of opportunity becomes continually more difficult. It is not chiefly the extraordinary young person on whom anxiety need be expended; he is likely to find his way to his proper place under almost any arrangements. It is the ordinary and the better-than-ordinary whom it is essential to place properly in our noncompeting groups if we are to enjoy economic efficiency and social stability.

To summarize our discussion up to this point: the total number of persons constituting the potential labor supply depends at bottom on the numbers and character of the population; the distribution of income and the other social conditions that determine the proportion of persons who are gainfully occupied rather than living on income otherwise derived; and the institutional and other arrangements that divide the gainfully occupied persons into a class of employers, on the one hand, and employees, on the other. Within the employee class, in turn, the numbers in the different groups are determined by various conditions, for the most part only indirectly connected with industry. These groups, selling essentially different commodities, do not compete with one another. The possible supplies of unskilled, semiskilled, and skilled labor are thus, at any given time, almost independent magnitudes.

Labor Supply Price

Even when we know the exact number of workers in all noncompeting groups at a particular time and place, we do not yet know the supply of labor of the various kinds. When we know the total number of bushels of wheat existing on a certain day, we do not know the supply. That depends on the willingness of holders to sell at various prices. That is to say, supply depends not only on stock but also on what owners will accept. The same thing is true of labor supply, even though labor is a completely perishable commodity. Workers of all sorts, under ordinary circumstances, have an idea that their work is worth thus or thus much. Unless they are in sore straits, they will not sell it for less than they think it worth, even if they have to go idle for a while. Moreover, they know well enough that the going wage acquires a

sort of prescriptive validity, and that in the absence of some material change in conditions they can probably get that wage by standing up for it. If, therefore, common labor in a town has been getting forty cents an hour, it is possible that even with hundreds of ordinary laborers willing to work for forty cents, an employer might have difficulty in getting a dozen at thirty-five cents. Experience has led them to put a supply price of forty cents on their labor, and the supply schedule might be three hundred workers at forty cents, none at thirty-five. When we think of the supply of labor of a particular kind at a particular time and place, we thus must think not only of the actual number of workers of that kind but of the price at which they hold their labor.

We must take into account also their ability and willingness to withhold it over a shorter or longer period unless they can get their price. It is this ability which creates an effective supply price, or a minimum below which the worker will not work. Ordinarily it is assumed that the producer of a perishable commodity, particularly if he is in a necessitous situation, will sell it for whatever it will bring. Since labor is immediately perishable and workers are commonly hard up, theorists sometimes assume that they take whatever wages they can get—in other words, that they can have no effective supply price. This has certainly not been true of most American workers. Under ordinarily favorable conditions most of them in the past, despite the lack of property reserves, have actually had considerable power "to take it or leave it" when the employer offered a job. Not only was there the possibility or the hope of another job but there was the relative ease of setting up for themselves. This power to withhold their labor, even at cost of its entire loss, they have used with good effect in making their wage bargains, and American wages have reflected the bargaining power of workers as well as the productiveness of American industry.

The Elasticity of the Labor Supply

Many of the topics touched upon in the preceding paragraphs, though they were not so labeled, relate to the elasticity of the labor supply in general or in particular groups. The stock, or potential supply, of labor changes with great slowness, and only in trifling degree—if at all—in direct response to economic causes. A rise in the birth rate may, from fifteen to twenty years later, provide more workers; but we have no measure by which we can determine whether the increased birth rate was a response to higher wages. It may be true that continued high wages, with the resulting rise in the standard of living, eventually bring not a rise but a fall in the rate, families growing more eager to protect the scale of living which they have attained.

In the short run, observation suggests that at higher wage rates more workers offer their services and offer them for longer hours. The experience of the second World War seems to support this conclusion, but the generalization must be a cautious one. First, the unemployed who in 1940 and 1941 found work cannot be considered to have offered their services because of higher wages. They would have worked, and gladly, at the prevailing rates in earlier years. Secondly, those housewives and young students who were drawn into the labor market by motives of patriotism, not by high wages, constitute a new supply which bespeaks a change in conditions. They must not be regarded as an evidence of elasticity. Only those who offered their services because of the high wages are pertinent when we consider elasticity. Some there undoubtedly were, but it is impossible to say how many. The number of workers who are drawn into the labor market by high wages are not the only evidence of elasticity. Indeed, they may not be the most important evidence. In many industries the increase in hours worked was induced by the payment of time and a half for overtime.

What of elasticity in noncompeting groups? Here, in the long run and in the short, it is reasonable to assume that elasticity is greater than it is for the labor supply in general. Within certain limits, chiefly imposed by income, young workers may be trained for the occupations which offer the greatest rewards. High wages in the printing industry would bring forth more printers as rapidly as they could be trained; low wages would reduce the number who considered it worth while to acquire the necessary skill. In the short run the elasticity of each type will depend upon the ease of movement from one occupation to another. The greater the mobility, the greater the elasticity of particular supplies, and the more nearly equal will be the rewards of the various types of labor.

The Labor Market

We have suggested above some of the conditions of demand and supply in reference to labor. We turn now to examine briefly the process of bargaining in the market where the forces of demand and supply are registered. Sometimes the process is entirely informal, as when a man offers a boy a quarter to do a certain job. Sometimes it is highly elaborate, as when all the Eastern railroads, after months of negotiation, enter into agreement with the unions of their employees whereby the wages of hundreds of thousands are fixed, sometimes for two or three years. Sometimes it is carried on in great numbers of separate markets, existing largely in isolation from one another, though attempts at co-ordination are being made through public employment agencies.

In 1933 the previously existing Federal employment service was completely reorganized, primarily as a step toward the establishment of efficient employment agencies in the states. The legislation thus aimed to aid in organizing the labor market on a state-wide and nation-wide scale. So far as it proves successful, it should aid not only in bringing men and jobs together but in lessening inequalities in wages.

Over against the separate groups of employees in each place must be set the corresponding employers, or often enough the single employer, looking for the kind of labor embodied in a particular group of employees. Each employer has to meet his own peculiar and definite requirements, varying from time to time with changes in his business. The demand of each employer is limited by the marginal productivity of the groups he employs. Thus there goes on a perpetual process of bargaining between individual employers, or employer groups, and employees, either as individuals or as groups. Mostly the groups are small; occasionally a trade-union will bargain for all the miners in half a dozen states, or all the men's clothing workers in New York City. The bargaining power of the individual American worker, resting on his ability to maintain an effective supply price, has declined markedly since the Civil War. In part this decline is probably the result of his greater specialization. Refusing one job, he is less easily able to turn to work of another kind. More than that, when the large establishment has taken the place of the small one, he has ceased to count as an individual. He is a number, easily replaced. He can accept what is offered him or refuse it; but if he refuses he finds himself on the street, with less ability than formerly to turn to another job and with little power to set up in business for himself. In the absence of labor organization the process of wage-fixing by a large corporation cannot be called bargaining. Wages under such circumstances are fixed by the corporate agents responsible for labor policy. They fix them at the rates which they believe most advantageous for the corporation, taking into account both present and future, and giving due attention to what they consider its obligations to its employees, the communities in which it operates, and the public that it serves. In doing so they necessarily give attention to the conditions of labor supply, setting demand prices accordingly in the light of all the considerations just sketched. The fixing of the price of labor is essentially the same thing as the fixing of any other administered price, but by the buyer, not the seller. The results of such action may conceivably not be widely different from those that would be attained by actual bargaining, but the process is certainly not bargaining. The option of the workers is to accept or not to accept employment on the terms offered, not to take part in the fixing of those terms. The same thing holds true of those who work for a large-scale individual employer.

As a consequence of corporate growth trade-unions have assumed a new importance in American life. If workers are to retain or, rather, to recover the power they have enjoyed in the past to withhold their labor in order to make a supply price in any way effective, they must do so through their own organizations and not individually. A powerful union may sometimes bring almost irresistible pressure to bear on employers to concede wage rates otherwise unattainable. Of course, there are limits to the process. If the rates exceed the marginal productivity of the workers, they will create unemployment in their own ranks or will injure the wages or the employment of other workers—probably both. There is always the danger that as trade-unions grow strong they may develop monopoly policies akin to those of industry. Regulations which rigidly limit the number of workers admitted to a union, while forcing a closed shop upon employers, and restrictions which hamper and reduce production, may achieve high wages for the few, but they do it at the expense of the many. The total national income is decreased, and unemployment is increased by such practices just as by other forms of monopoly.

The process of collective bargaining must be sharply distinguished both from individual bargaining and from one-way wage-setting by the employer. Like the latter, it is the fixing of an administered price, but by joint action of buyers and sellers; the latter, at least, act through their organization. The price thus arrived at holds for a specified time, usually not less than a year, and may not be changed without consent of both parties. Such wage rates constitute one of the important groups of inflexible prices to which we earlier directed attention. It may be observed in passing that all wage rates are likely to have a measure of inflexibility.

In view of the conditions of demand and supply and of labor-marketing it is impossible to think of a price of labor, or even of a price of labor of a particular kind, comparable with the price of wheat or pig iron or United States Steel common stock. Wages are local and not world prices; they are prices of many products, not a single standardized product. Nevertheless, through the operation of our various facilities for the spread of information, and through the often informal co-operative action of employers on one side and employees on the other, a surprising approach to uniformity is often attained in the wages paid for a particular kind of labor over a considerable section of the country. Even so, we perhaps exaggerate their uniformity, as when we speak of "the" differential between Northern and Southern wages. The absence of an organized market, even locally; the comparative difficulty of moving labor, with its family and other ties, from place to place; the different climatic and related conditions over a country as large as our own; the differing willingness and ability of different individuals and labor groups to make

a contest in order to get what they think their labor worth; the different degrees of organization; even the differing dispositions of different employers—all of these and other influences, under the special circumstances that surround labor bargaining, result in a great variety of labor prices. Some of these variations are differences in money rather than in real wages, but many of them are differences in real wages. The wonder is that there exist even such uniformities as we observe. Trade-unions and wage publicity are undoubtedly the two forces working most strongly toward uniformity, though corporation practice also deserves mention. The work of government employment agencies has already been suggested.

Nonindustrial Influences in Wage Determination

Our account of both demand and supply omitted one highly important consideration, which we reserved for separate discussion because it affects them both, though in unequal degree, and therefore affects the bargaining or other wage-determining process itself. Without taking this into account it is hard to explain two puzzling features of wage determination. The great fluctuations in demand for labor that accompany the march of invention and organization, the rise and fall of industries, and the cyclical movements of business, as has already been pointed out, are met by no corresponding changes in supply, so far as the actual numbers seeking work are concerned. Numbers in each group are more or less fixed, while demand goes up and down like a jumping jack. It might be thought, therefore, that wages would fluctuate sharply with variations in demand. On the contrary, they are distinctly inflexible prices, even in the absence of organization. Adjustment takes the form of unemployment. Why?

A second question, even more difficult than this one, also demands explanation. Cyclical fluctuation is characteristic of capitalistic industry. It is notably sharp in this country. The total number of persons willing to work for hire must at least be large enough to man industry at its peak. Otherwise industry could not attain that peak. We know that the actual number is in fact still larger; we have some unemployment even at times of peak prosperity. We therefore may think of that peak number of workers, multiplied by the full number of working days per year and less the total number of days of workers' illness, as the minimum number of man-days labor per year theoretically in the market and perishing on the hands of the worker if not sold. There is never a time when all of it is sold. We thus appear to stand in the presence of a perpetual surplus of labor above the amount actually sold. It manifests itself not as a single total but as a surplus of this and that kind of labor in this

and that market, and in times of depression in practically all markets. Under such conditions, since labor is a perishable commodity, why does its price—and particularly the price of unskilled labor, which seems to be chronically in oversupply no matter what its wages—not fall to the price where the whole existing stock is absorbed? We know that the adjustment in fact takes place through unemployment, rather than through the setting of the theoretically "right" price. Why?

The economists in their study of competitive theory employ the concept of an equilibrium price of labor, which would afford full employment and would therefore be the theoretically "right" wage level.[1] Some of them urge a "tendency" of wages to approximate such a level. The existence of any such tendency has been strongly challenged in recent years, and the persistence of unemployment in all developed capitalistic societies makes it hard to make the term mean more than that labor surplus constitutes a perpetual threat to wage rates. Yet we seem, if anything, to be departing further from equilibrium price rather than approaching nearer it. Why?

The explanation must be sought at least partly in the fact that "the labor of a human being is not a commodity" alone and that wages are not simply the price of a commodity. The conditions of both demand and supply are profoundly affected thereby, though the operation of the force thus set in motion may be more apparent on the supply side. Labor cannot be separated from the laborer. In selling it he sells a part of his life. In performing it he lives. By the pay he receives for it he gets the means of living. As we have seen already, the pay of labor determines the income of probably four families out of five in the United States today. Wages are immediately translated into modes of living for most of the people. Hence wage rates have a determining influence on living conditions not equally apparent in any other set of prices. Because labor is life, and wages are the means of living, neither employer nor employee looks on wage determination in quite the same impersonal way as on fixing the price of cotton or automobiles. No reasoning will convince the worker that he ought not to get "enough to live on," and if he fails to do so he will remain idle as long as he possibly can. His standard of living and his accustomed wages thus set a lower limit to his supply price and impose a serious barrier to reduction of wages, even though their maintenance involves unemployment. On the other side of the wage bargain, though less insistently, the same considerations operate. No employer likes to be known as a wage-cutter; no humane one cuts wages if he can help it, and our recent business history is notable for the delay in wage reduction during 1931, after it had

[1] To this equilibrium concept we shall return in Chapter Thirty-four.

become apparent that reduction was economically necessary. As the last phrase indicates, there is no intention here to argue that the uttermost determination on the part of employers and employees alike can maintain wages above the limits imposed by the productiveness of the industry. But the human considerations involved help to keep both supply price and demand price—in the ups and downs of business—above the point they would attain under the operation of purely commercial forces. If such considerations do not explain the rise of wages, they do help to explain why wages do not fall farther and faster in depression, a fact which is only less important in following their actual course.

But such forces operate in another way. If the wages of any group are by any means raised, not only do living standards quickly adjust themselves to the new earnings but both employer and employee in no great time get used to the new rates, which they begin to think of as right and proper. Yet further, and certainly no less important, the price structure of the industry comes to adjust itself to the wages; and the ideas of those who settle wages thus find support in the value product of the labor. In a particular industry a man thus may become worth more to an employer just because he is paid more and we may enter on a bootstrap process of raising wages. Precisely this is what happens under a labor monopoly. Building-trade labor has pushed wages to a very high point, contributing markedly to the high cost, the high price, and the relatively small amount of building. The marginal productivity of the worker has been increased. He builds no greater number of houses, but houses are worth more. In fact, a labor monopoly, as we have already pointed out, like any other monopoly, decreases total social productivity insofar as it causes unnecessarily high prices and thereby lessens consumption and production. It may manage, however, to get for its industry a larger share of a decreased total produced, thus making the workers in the monopoly worth more to their employer. We mention monopoly here only to indicate how it may lead both employers and employees to accept unemployment as an alternative to the reduction of wages to an "equilibrium" level.

We are not attempting to explain unemployment wholly or even chiefly on this ground. Neither are we entering on the disputed field of the elasticity of demand for labor, of how far the actual employment of labor in a particular situation might be increased by a lowering of wage rates. In actual industrial operation employers generally have become more cautious than formerly in respect to indiscriminate wage-cutting as anything less than a last resort under difficulties. Employees, while perhaps coming nearer than before to seeing the distinction between wages and earnings, continue to display a notable and perhaps not wholly unwise reluctance to accept reductions in wages on the

basis of vague assurances or hopes of consequent increased employment, and continue to press for increased wage rates at every favorable opportunity. So far as its human elements are concerned, the wage-fixing process is thus given a twist in the upward direction.

Wages, it cannot be too often asserted, rest on production, which in turn depends not on labor alone but on natural resources, technique, equipment, and industrial organization. Production sets definite limits to wages, as to other productive shares; but the marginal productivity of labor does not automatically determine the wages of each kind of labor. Wage theory must always take basic account of industry's ability to pay, but it must take account also of bargaining skill and ability, of the human considerations in wage determination, and of the tendency of today's arrangements to project themselves into tomorrow. In general, wage-fixing is largely the fixing of an administered price, either by joint action of buyers and sellers or by the action of one side alone. Once set, wages are not likely to be changed unless there occurs such a considerable change in conditions as to lead one side or the other to move for a new adjustment, with all the attendant inconveniences, uncertainty, and danger of disturbance. When business is flourishing, labor groups are likely to move for a wage advance. Staving change off as long as possible, in time the employer probably will come to an agreement on the best terms he can, thus yielding to the workers some part of the increased value that is being produced. It requires a sublime act of faith to believe that such wage advances generally bear a definite relation to the increases of production out of which they are paid. They seem a good deal more likely to be related to the intelligence and strength of the bargaining groups. When business is moving downward, the ordinary employer will put off wage cuts as long as he thinks he can; he does not want to cut his help, and he does not want to take unnecessary chances of the labor disturbances, with consequent interruption of business and earnings, that are likely to follow.

The rise of wages in modern societies is thus by no means wholly the result of industrial forces, though the growth of industrial productivity has made it possible. It is due to forces such as the growth in knowledge, education, and power of workers and workers' groups, the rise in the political and social status of the ordinary worker, the appearance of a democratic ideal in everyday social thinking. Under favorable conditions ideas become powerful forces. They cannot make possible the payment of high wages out of unproductive industry; but they must be taken into account in studying present-day American wage determination, and particularly in considering the possible readjustment of wages and other distributive shares that we may face in consequence of the new economic situation to which the twentieth century has brought us.

CHAPTER TWENTY-SIX

Rent

RENT, as the word is used in ordinary speech, means a payment made for the use of a durable good over a specified period of time, as the rent of a farm for five years, the rent of a house on lease for three years, the rent of an equipped machine shop for a year, the rent of a typewriter for a month, the rent of a cap and gown for the Commencement season or of a dress suit for an evening. The economist, in his use of the term, tries to make clear the economic fact underlying money payments of this kind. Economists, however, are by no means in agreement on a definition. Some define it as any return from a factor of production above that necessary to bring the factor into use. We shall define it as income derived by owners of durable goods from the use of their property, whether employed by themselves or let to others. If an owner lets his property (a factory or a dwelling house) to someone else, he gets a payment for its use. If he uses it himself, he nonetheless gets income from it, in the one instance in the form of a larger return than if he had to pay rent for the factory, in the other in the form of free house rent. Similarly, a farmer works his own farm, which he would rent for $500. At the year's end he will have $500 more than if he had had to pay rent for the farm. In substance he has received $500 rent from the farm which he owns, though he thinks of the $500 as part of his profits.

The British economists in the latter part of the eighteenth century and the early years of the nineteenth, in their attempt to solve the problem of how the national income was distributed, divided the entire income of society into three parts: wages, which went to laborers; rent, to landlords; and profits, to owner capitalists. Thus, for reasons which we shall presently see, they limited rent to income from the use of land. Today students recognize that rent is a type of income derived from all durable goods and not from land alone. It is convenient, however, to devote our exposition in the first instance chiefly to land rent, as it illustrates with especial clarity the significance of rent in distribution.

Marginal and Submarginal Land

Land, in the larger meaning of the word, is the essential foundation of all material production; it furnishes the site of productive operations and pro-

vides all the raw materials of industry. It is therefore the basis of material prosperity. Land used for any particular purpose, like general farming, shows every conceivable variation in adaptability to that purpose. Such adaptability depends not only on its fertility, its physical structure, and its topography but also on its access to market and on all the other economic conditions that make production on a particular area cheap or costly. The report of the National Resources Board quoted in Chapter Four indicates that slightly over half our entire land area is included in farms, of which about three eighths consist of land under crops. The board estimated that about 75 million acres, including 20 million acres of cropland, are actually "submarginal land—that is, areas where the land is so poorly adapted to farming or has deteriorated so seriously that nothing is in store for the inhabitants but extreme poverty and wretchedness." Something like 8 per cent of the land actually occupied by American farmers today, and 6 per cent of the land under crops, is so poor, economically speaking, that its users cannot make a decent living from it. Because of the staggering difficulties encountered by individual families who are trying to rescue themselves from such a situation, the board recommended a program of government acquisition of these areas, which for the most part should revert to forest or grazing uses. The families involved, it would reestablish in other localities, where their labor might yield an adequate living.

The elements of the theory of land rent can easily be drawn from the foregoing and a few other well-known facts. If 8 per cent of the land actually in farms is too poor to be used profitably (in the sense of affording the user a reasonable return on his labor and on the capital he has to use in working it, but nothing more), evidently that land is submarginal in the sense in which we used the word "marginal" in our discussion of the marginal producer. In the words of the board, it cannot continue to be used for farming except at cost of "extreme poverty and wretchedness." Of the remaining 900 million acres of our farm land, a certain undetermined area, slightly better than that just described, is barely good enough to pay expenses in the sense above indicated. This land is marginal; it covers cost as above defined and yields no surplus. All other farms yield a surplus above costs; that surplus constitutes their rent. Such, in brief, is the theory of rent as applied to farm land of differing quality. Rent is equal to the excess of the product of better land over that of marginal land.

Rent as a Surplus

The theory has been highly elaborated, but we shall confine our discussion of land rent to its simpler aspects, though the simplicity of our examples does

violence to the facts. With the improvement of transportation and the growth of markets, the supply of many agricultural products ceases to be drawn from the immediate local area that at first supplied each local market. At a relatively early stage of this process suppose that there came to the Boston market quantities of wheat grown on lands of varying fertility and ease of cultivation, and at varying distances from the market. These variations of distance would cause variations of transportation cost. The price would have to be high enough to cover the cost on the poorest land that continued to be used to supply that market, the term "poorest" being used in the sense of highest-cost.

Assume that the price in the Boston market was $1.75 per bushel, and that the market was supplied from three sources: (1) from farms in Middlesex County, only a few miles out of Boston, that yielded 15 bushels per acre; (2) from Middlesex farms that yielded only 12 bushels per acre; and (3) from farms in southern New Hampshire that yielded 15 bushels per acre but were so far distant from Boston that they must incur an added expenditure of 35 cents per bushel for the long haul over bad roads. Assume, further, that the operator of the poorer Middlesex farm just covered costs, including in those costs pay for his labor in running his farm. If we reckon costs thus, we must assume that he spent $21 in cultivating an acre of land and getting its product to market. His yield was 12 bushels, which at $1.75 gave him $21, exactly covering costs. His land, which just covered the costs of cultivation, was marginal land. Yielding no surplus above costs, it accordingly yielded no rent; no one could afford to pay anything for its use. It was the poorest land that anyone in Middlesex County could afford to use in growing wheat for Boston. An expenditure of $21 on an acre of the New Hampshire land yielded 15 bushels, which sold in Boston for $26.25, but the added transportation cost of 35 cents a bushel, amounting to $5.25 on 15 bushels, brought their cost when they reached the Boston market to a total of $26.25, or $1.75 per bushel. Thus the New Hampshire land, despite its assumed greater fertility, was, in view of its greater distance from market, no "better" land in growing wheat for Boston. Just like the less fertile Middlesex land, it was marginal and yielded no rent.

Compare with the foregoing the better Middlesex farm. An expenditure of $21 on an acre of this land yielded 15 bushels, which at $1.75 brought in $26.25, a clear surplus of $5.25 above cost, and a surplus due to the greater fertility and better location of the farm. An expenditure of $21 here yielded 15 bushels against 12 on the neighboring poorer farm. The extra three bushels, worth $5.25, were evidently the result of greater fertility. As against the New Hampshire farm, which likewise yielded at the rate of 15 bushels, the better Middlesex farm escaped an extra transportation cost of $5.25 on the

product of each acre, an advantage resulting from its better location. The acre of better land yielded a surplus of $5.25 which did not appear in the returns from either of the marginal acres. This surplus of value of product above cost constitutes the rent of the land. This surplus likewise may be looked on as the excess of the product of the better land over that of the marginal. The two statements are simply different ways of looking at the same thing. The idea is that of a surplus, and the surplus is due to the superior productiveness of expenditure on the better land over the appropriate expenditure on the poorest land that can be made to cover expenses.

Suppose the population of Boston increased its consumption of bread, with a resulting increase in the demand for grain. Wheat can now be sold in Boston for $2 a bushel. The poor Middlesex farmer, with his costs unchanged, now sells his 12 bushels for $24, which allows him a surplus of $3. The New Hampshire farmer sells his 15 bushels for $30, subtracts transportation charges of $5.25, and is left with $4.75 rent. To the better Middlesex farm there is a surplus, or rent, of $9. Under these circumstances farmers so remote from Boston that their transportation charges are 60 cents a bushel might send wheat to the Boston market, provided they could raise on their land 15 bushels at a cost of $21. There has been no change in the cost of cultivating wheat and sending it to market. The increased rent and the extension of production have been the result of an increase in the price of the product. With a higher price poorer or more remote land is brought into use, and the rent on all better land is increased.

Thus, in a price economy, what constitutes marginal land depends on prices. If the prices of the products of land increase, it becomes possible to pay expenses on poorer land. War demand during the first World War raised the price of wheat and extended the cultivation of that cereal to millions of acres of semiarid land in the Far West that had grown nothing but buffalo grass during all known time. War demand thus brought poorer wheatland into use and increased the rent on all better wheatland. When wheat prices fell after that war, this once more became submarginal wheatland. There began a slow process of starving out the men who attempted to farm it, a process which in the course of time, lacking some new development, will restore it to its original uncultivated condition. The shift in prices which first raised submarginal land to marginal or even to rent-producing land, and then threw it back to its submarginal condition, created human problems which the government, with its resettlement program, was trying to solve in the thirties. This is but one of the innumerable maladjustments of economic life which can be understood better once rent itself is understood.

In the illustration of wheat for the Boston market, rent is the difference in

return between the poorest land (poorest in fertility and location) which pays the cost of production and any land better than the poorest. It makes no difference whether this surplus is paid over to a landlord or is received by the farmer who works his own land. If paid to the landlord in money or goods, we may call it contract rent; if retained, economic rent. A landowner can afford to farm his own marginal land. Though it yields no rent, it will return to him his expenditures on it. A tenant cannot afford to use such land; for if he pays to its owner any rent whatever, that payment must come from what should have been the reward of his own labor or the interest on capital investment. The land itself was by definition marginal and yielded no surplus from which payment could be made. If there had been such surplus, we could not have called it marginal land.

Rent and Diminishing Productivity

So far the idea of rent is simple enough. Land varies in fertility and location. There is not enough of the best land. As the demand for the products of land increases, their prices increase; men can afford to use poorer land, and the better land yields a surplus above costs. We now turn to a slightly more difficult aspect of rent. For a moment make the unrealistic assumption that all land is alike and that all within a closed area is in use. Farmers, with an expenditure of $21, have been raising 12 bushels of wheat, which they have sold for $1.75 a bushel. Population within this area increases; the demand for wheat increases; the price of wheat, which has been $1.75, goes to $2. Production of wheat cannot be increased by moving to poorer land because, by our stated conditions, not only is all land alike but also all land is in use. The farmers, however, know that by using more seed and more fertilizer and increasing their labor they can raise more wheat on their limited acreage. They also know that at some point the inexorable law of diminishing productivity will begin to operate. Perhaps by past experience they realize that cost and productivity relationships are as presented in the figures on page 490, where seed, labor, and fertilizer are represented by $21 units added to costs.

If the facts are as presented here, the farmer's first application of $21 worth of labor and capital will yield 12 bushels, which, at $2 a bushel, will render a surplus over cost of $3. Productivity in this illustration diminishes with the second application of $21. The 11 additional bushels which result sell for $22; his third application, if he misguidedly makes it, yields but a sorry 10 bushels, and he loses $1 which he might have had if he had stopped with two applications of his unit of cost. The rent on the first application is $3; on the second, $1; on the third, minus $1. The total rent from the three applications is $3;

Rent from Intensive Cultivation

TOTAL COST	MARGINAL COST	TOTAL RETURN	MARGINAL RETURN	TOTAL SELLING PRICE	SELLING PRICE OF MARGINAL PRODUCT	TOTAL SURPLUS	MARGINAL SURPLUS
$21	$21	12 bu.	12 bu.	$24	$24	$3	$3
$42	$21	23 bu.	11 bu.	$46	$22	$4	$1
$63	$21	33 bu.	10 bu.	$66	$20	$3	$-1

from two, $4. Observe that this total rent, or surplus, can be discovered by subtracting the total cost of the product from its total selling price or by adding the marginal surplus on each application. In our illustration the point of diminishing productivity is the second application of a unit of cost, and that also is the marginal application beyond which the farmer cannot go without loss. It is seldom that these coincide. Suppose that we had found his marginal return from the third application of $21 to be 11 bushels. These would have yielded $22, a surplus over cost, or rent, of $1; his total rent would have been $5, and he would have been better off for his third application. The second is no longer the marginal application, though it is the point at which marginal returns begin to diminish.

We can now return to a more realistic statement of conditions. For most farmers, as well as for any country or society, an increasing demand for the products of land can be met both by a movement to poorer land and by more intensive cultivation of land already in use. Either means a higher cost for the additional units of product; either means an increase of rent on the better land and on the first applications of labor and capital. A country blessed with the unused land of early America will for long extend its cultivation rather than develop an intensive agriculture. Such a country as Holland illustrates a highly intensive cultivation of the land; the United States has long been the outstanding example of extensive cultivation. The aim of any farmer is to carry his production to the poorest section of his land that will pay the cost of production and to extend his application of the factors of production on all his land to the last increment which will return his costs. On practically all farms both practices may be illustrated. Suppose a farmer possesses land of three grades, called for convenience A, B, and C. His yields in response to applications of a unit of cost are shown in the figures at the top of page 491. We shall assume further that each unit of cost is the equivalent in value of 3 bushels of product and that the farmer knows all this and plans his cultivation accordingly. How will he distribute his units of cost? Obviously the first will be applied to A land, where the yield is 8; a second applied to A would add but 5 to his total, while applied to B it would add 7. Therefore the second will be applied to B. The third and fourth can best go to A, but a fifth will add

Rents from Intensive and Extensive Cultivation

UNIT OF COST	A		B		C	
	MARGINAL YIELD	RENT	MARGINAL YIELD	RENT	MARGINAL YIELD	RENT
1	8	5	7	4	4	1
2	5	2	3	0	3	0
3	5	2	2			
4	3	0	1			
5	2					

more if applied to C. The sixth may be indifferently applied to A, to B, or to C. The experienced farmer would apply one unit each to the three areas. He has now reached the point where in each field a further application would yield less than cost, and there is no incentive for him to make further expenditures. Let us see what his rent is. On A he derived from his use of his first cost unit a total of 8 bushels. Subtracting a cost of 3 bushels, he has a surplus of 5 bushels. On the second and third applications to A the surplus of return over cost was 2 bushels each; on 4 there was no surplus. His total rent on A is 9 bushels. The fifth application to A he did not make. On B the first application yielded a surplus of 4 bushels; the second, none. The third application he did not make. On C the surplus on the first application was 1 bushel; on the second there was none. The third application he did not make. The total of his rent is thus 9 bushels on A, 4 bushels on B, and 1 bushel on C, or 14 bushels. This is the surplus product, measured from the marginal application which just covers the cost whether applied by intensive cultivation to homogeneous land or to land of varying qualities. Though the illustration has been reduced to most unrealistic simplicity, the essential principle is here.

Rent as a Price

In the introduction to our study of distribution the statement was made that the determination of the distributive shares constituted a series of price problems. Rent is no exception. In considering it as the price for the use of land the first question to be disposed of is, Why does land, the free gift of nature, command a price? It has no cost of production. To bring into existence other production goods—locomotives or looms, for example—costs must be expended, and the price must be one which will induce the expenditure. True, nature provides the land; but nature also places a limit on the amount available. Here early writers found the reason for their distinction between land and capital goods, both necessary agents of production. Land came into existence without cost to man; but man was unable by expending costs to increase its amount. Machines and factories demanded expenditures;

their numbers could be increased by further expenditures. Today we regard this distinction as one of degree, not of absolute difference. Nevertheless, it has significance in explaining why the use of land commands a price. The amount of better land which nature supplied is scarce in relation to man's wants. As soon as the supply is all in use, any increase in demand for the product makes a larger product desirable. The only way to achieve this is to bring under cultivation poorer land, where cost of production is higher, or to expend more capital and labor on the better land. We know that if we add more units of the other factors of production to this fixed factor, land, the total output will not increase in proportion to the increase of the factors we added. If we double the fertilizer, we shall not double the product. From some point the total product will increase at a diminishing rate; the marginal product will decrease. There will be a point where the additional product obtained is worth no more than the additional costs expended in obtaining it. Here marginal cost and marginal revenue are equal. All applications above the marginal application yielded a surplus above cost—economic rent. The renter of land can afford to pay this surplus to the owner for its use. If he pays more, he is paying to the landlord some of the returns to labor and capital; if he pays less, he is receiving a part of the return attributable to the land itself. The owner of land, if he farmed it himself, would receive this economic rent as part of his income. He can afford to lease to a tenant for this amount. The process of bargaining in a competitive market will bring about rent contracts which correspond to what owners and tenants believe the economic rent to be, though it is obvious that the longer the term of rent agreement the more likely are the two to be out of line. Here we have stated the theory implicit in the illustration of the preceding pages.

Rent as a Cost of Production

This carries us to a further question much argued in an earlier day: is rent a cost of production or is it a surplus above cost? If at the margin of production there is no rent, then is it not obvious that rent is not cost but surplus? Clearly this argument had no application, and was never intended to apply, to the tenant, to whom the rent called for by his contract was as much a part of his costs as was the seed which yielded the wheat or the wage paid for labor. It will not be equally clear to the student that economic rent is a cost to the owner who is cultivating his own land. Before we answer this question, we need to inquire what determines the value of the land itself. Again a simple arithmetical example will be enlightening. Suppose a farmer decides to leave the farm which he has worked for many years, in order to live in a near-by city.

At what price is he willing to put the farm up for sale? Being an unusually knowledgeable farmer he is aware that in the preceding five years it has yielded him an annual return of $600 over all costs. Provided he is guided by economic motives alone, the minimum for which he will be willing to sell is a sum which at the going rate of interest will yield him the same annual income. If the interest rate is 6 per cent, the arithmetical question is simply, Of what sum is $600 6 per cent? At that sum ($10,000) the farmer can sell without sacrifice of income, for he can lend the $10,000 at 6 per cent and continue to receive $600 a year. And in a competitive market he can get no more than that. Any effort to fix a price above this will drive purchasers to other sellers. A buyer can afford to pay $10,000, because if all goes well the farm will yield that sum in economic rent. More than that, if he knows the facts, he will not pay; less than that will not be accepted. If the prevailing interest rate has been 2 per cent, with no other change of conditions, the farmer must have asked $30,000 for the farm in order to retain his income intact; if 10 per cent, $6000. The higher the interest rate the lower the value of the farm. This process of "capitalizing" the use value, or rent, of a productive agent has, as has the existence of rent, an application to the valuation of all durable capital goods. It explains the statement earlier made that rent is a cost, even to the owner of the land. If the farm is valued at $10,000, the farmer in his accounting must attribute the interest on that sum to his cost of production. This the student will have frequent occasion to recall in later study.

This is not the final answer. To show that to the renter and the owner rent is a cost does not prove that it is a social cost. Human effort, labor, is a social cost. If we wish the income from goods produced by labor, recompense must be made for the labor. Wages in money or goods must be paid. Man must be rewarded in order to exist. But the payment of rent does not bring land into existence, nor does it prolong its existence. Land has no supply price to call it into being. It is in this sense that economists have argued that all return from natural resources was a surplus, an excess above cost, not a social cost.

Consideration of rent as a cost has another aspect. Suppose the farmer, in making his production plans for the year ahead, knows that by planting corn on one of his fields the surplus over cost will be $150, but decides to try potatoes. He may regard the $150 as a cost of raising potatoes in the sense that he had to sacrifice the yield from corn in order to obtain that from potatoes. This sacrifice, or "opportunity," cost is not confined to the individual. The social cost of raising peanuts may be the loss of opportunity to raise sweet potatoes. This cost can be even more clearly seen when we turn to rents which arise chiefly or entirely from location, as is true of urban land.

Urban Rents

Thus far we have touched only on land as used for agriculture. The most striking phenomena of rent, however, occur in the use of land for building sites in cities. Such use introduces no essentially new principle, but some striking applications. When a town grew up on an Iowa prairie, it might be that every acre on which it was built and acres for miles around it would have commanded a yearly rent of $4 for corn-growing purposes. Even the "poorest" land in the town (essentially that farthest away from the business center) would bear a rent of $4 an acre. "Marginal" land (for business purposes) was not free land but had to pay a rent of $4, or about 65 cents for a hundred-foot lot, as "opportunity cost." Suppose that a man wished to start a grocery store. He might do it on the outskirts of the town, where the rent of a lot would amount to 65 cents; but he would probably do materially less business than if he were in the center of the town, more convenient of access to most of its people. Suppose he figured that the increased business that he could do in the more central location would yield him an added return of $100 a year. Then, if he were going to rent a lot there, he could just as well afford to pay $100.65 for its use as to pay 65 cents for the less desirable one. The rent of the centrally located lot, $100.65, is made up of two parts, 65 cents being the rent (due to its value for corn-growing) of the marginal land (that on the outskirts) available for business purposes, and $100 representing the added advantage of the central location over the more distant one. The sharp increase of the rent of lots in this small town, it will be observed, is due to the sharp increase in the demand for the use of the particular lots in the business center, which in turn is due to the sharp increase in the amount of business which will come to the central location. It is this increase in the demand for the use of particular areas that has caused the spectacular growth of rents in modern cities.

The situation on Manhattan Island is such that high land rents exist in exaggerated form. To begin with, land on the island is in great demand for residence purposes. Notwithstanding the manifold inconveniences of living there, millions of people for one reason and another would like to live on this particular little twenty-two square miles of land. As a result, large parts of the island are covered with towering apartment houses in which thousands of people live on an acre of land. The rentals that they pay cover the operating expenses on these buildings and interest on the capital invested in them; but in addition they include large sums that people pay for the doubtful privilege of living on that particular spot, with a certain convenience of access to their workplace and the other attractions of the city, instead of being an hour or

two farther away in New Jersey or Westchester County. The owner of a plot of land on Park Avenue may lease it for fifty years, at an annual rent of $75,000, to a company that wants to put up an apartment house. During the next fifty years the ground landlord or his heirs will collect that amount annually through the company from the tenants of the apartment house, not for the use of the house, as the ground landlord had nothing to do with the house, but for the privilege of living in a house on the particular piece of land that he owns. Ground rents under such conditions sometimes mount to great sums. Such building is analogous to the intensive cultivation of the farmer.

Yet more striking are the rents paid for land used for business buildings. Business areas on Manhattan Island command higher rents than residence areas, downtown business areas higher than uptown, the financial area higher than mercantile areas. The more intensive the use made of any area—that is, the greater the demand for its services—the higher the rent it commands. Anyone wanting to use the land, no matter for what purpose, must pay that rent, and the result is that the less intensive uses have to give way to the more intensive. Residence yields to business, merchandising to office use.

Moreover, as the demand for the use of particular areas rises, the height of buildings grows. Because thousands of concerns want to have their business located as close as possible to Wall Street, real-estate companies find it profitable to erect towering skyscrapers all over the lower end of Manhattan Island, and out of the earnings of these buildings to pay the enormous ground rents arising out of the desire of businessmen to be located in that particular district. Without the skyscrapers they could not pay the rents, but the skyscrapers did not cause the rents. Rather, it was the insatiable demand for the use of the land that caused both the skyscrapers and the rents. If an occasional wealthy concern, like J. P. Morgan and Company, for the sake of business prestige or for other reason, wants to maintain a two-or-three-story building in the midst of a forest of skyscrapers, it has to pay dearly for the privilege; for the ground rent that it must pay, or must forego if it owns the land, is the same as that realized on an adjoining plot carrying a thirty-story building.

Land Rent and the Single-Tax Theory

The growth of cities thus has occasioned a spectacular growth of ground rents. Since the selling value of land, as we have seen, rests ultimately on its rental value, it likewise has caused startling increases in the prices at which land sold. Shrewd or lucky landowners, in consequence, have sometimes enjoyed enormous access of income, or, if they sold, enormous increase in the selling value of their land. Such increase of income and selling value, the so-called

"unearned increment," has long been a favorite target of economic and social reformers, who point out that it is largely due to the growth of society rather than to any service performed by its lucky recipients, and that it should therefore in some way be retained for the benefit of society as a whole, instead of going into the pockets of individuals. The entire phenomenon is in essence a growth of land rents due to the desire of increasing numbers of people to make use of particular land areas. During recent decades public policy in most countries has come increasingly to take account of the considerations suggested in this paragraph, and there have been widespread efforts, through taxation and other means, to secure for the use of the general public at least a part of the increasing ground rents that are so conspicuous a feature of urban growth and that, under a system of private landownership like ours, sometimes swell private incomes in striking fashion.

The increase of land rents that inevitably attends the growth and aggregation of population is the theme of Henry George's famous book *Progress and Poverty*. Noting the high earnings of labor and the widely diffused prosperity of California in the rich days of the gold discoveries, George concluded, as had Ricardo before him, that it was the earnings of labor on the poorest land freely open to it that set the standard of wages. When all land was occupied, the labor and capital employed anywhere would receive a return equal only to that produced on the poorest land in use, and the entire surplus above this marginal product would be appropriated by landowners as the rent of the better land. Moreover, the growth of population and the increased demand for products would perpetually force recourse to poorer land. As the margin declined, so would the return to labor and capital also go down, while the proportion of the total income falling to the fortunate landowner would no less continuously increase. Thus progress inevitably entailed the progressive enrichment of the landowner and the progressive impoverishment of all other classes of society. As a remedy Henry George proposed a tax on land equal to its full economic rent, thus draining off into the public coffers the entire rent of land, and making it impossible for anyone to get income from land ownership. As this tax was to take the place of all other taxes, the idea on which it is based is commonly known as the single-tax theory.

The sixty years and more that have elapsed since the publication of *Progress and Poverty* have indicated the defectiveness of its author's view that the wages of labor depend at bottom on the productiveness of marginal land alone, but have confirmed his early insight into the fact that they are intimately related to the productiveness of industry as a whole. Moreover, they have shown in spectacular fashion the huge incomes that may be realized by those who are sufficiently shrewd or sufficiently lucky to get hold of rich natural resources or

fortunately located land areas and to hold them until the growth of population creates a need for their use.

Rent of Other Durable Production Goods

The rent of other durable goods used in production is determined as is the rent of land. The principle of a surplus yield from goods better than those which pay merely the cost of using them applies to durable producers' goods of all kinds. Once called into existence, they yield a rent to their owners so long as they remain above the margin of utilization. That rent does not depend on what it cost to make them, but on the service they can render and on the comparative excellence of the other instruments that can render the same service. Most man-made durable goods, except works of art in the broadest sense of the word, as soon as they are brought into existence enter on a process of depreciation that marks them sooner or later for the scrap heap. It is not simply that they wear out; to some extent that may be overcome by a continuous process of repair and rebuilding. More important in many cases is the constant technical progress that makes the best new instrument of today the obsolescent one of tomorrow and the obsolete one of the day after. Progress in electrical engineering is so rapid that the period of useful service of much of the best equipment turned out today is not reckoned at more than a decade; by that time it will be rendered worthless by something better. Relatively permanent instruments, like buildings, can be constructed to last, with proper care, for centuries. Yet progress in methods of heating, insulating, and equipping buildings has been so rapid that a first-class plant built fifteen years ago is definitely old today and has lost a considerable part of its original earning power. To state the matter generally, the margin of utilization of man-made things is being constantly, though irregularly, raised by the continual progress of invention and improvement. Consequently the rental yielded by a given instrument like a machine or a building is subject to reduction or extinction by the raising of the margin from which that rent is measured. These temporary rents from capital goods have been called quasi-rents.

It is in the almost indefinite increasableness of man-made instruments of most kinds as contrasted with the relative fixity of land, and not in any difference in the principle of rent determination, that the distinction between land rents and quasi-rents is to be sought. High rents for other goods than land are relatively impermanent. A man invents a machine that stamps out automobile bodies much more cheaply than they have been turned out before. He may collect high royalties from manufacturers of automobiles using the machine as long as it is strikingly better than any other available; but as soon

as it is successfully imitated, or as soon as a rival inventor comes forward with something just as good, or at latest when the first inventor's patent expires, the rent accruing to the owner of a machine of this type comes to an end and the inventor's royalties vanish. Land, on the other hand, while not rigidly fixed in amount, is relatively limited. Hence the rent of particular areas may rise almost without limit.

The relative fixity of land, however, and the consequent indefinite increase of rent possible, must not be taken too literally. The land available for residence purposes in any city in the early nineteenth century was only that which was within walking distance, or in some instances short driving distance, of the places where its inhabitants worked. The coming of the railroad, the horse car and the electric car made available for those purposes areas previously impossible of such use, but now brought within, say, an hour's transportation of the workplaces. The automobile has added immensely to the land areas available for the housing of the workers in every considerable city of the country, and thus has aided in keeping down the ground rents that can be collected from city dwellers. At the same time it may have raised ground rents in certain business districts by making it possible for a larger number of persons to concentrate their daily activities in favored localities. Insofar as improvements in transportation decentralize population and activities, they keep land rents down; in those spots where they occasion centralization, they push up the earnings of the landowner. In the economically significant sense, land is by no means an absolutely fixed quantity.

One further aspect of rent deserves attention. As has been pointed out, all durable producers' goods, whether let or used by their owners, yield rent to those owners. It is a fact of considerable practical significance in the process of distribution that real estate (land and buildings) is not uncommonly let while practically all other durable goods are almost universally sold outright. Americans traditionally have worked their own farms; yet half of today's American farmers are renters. Most industrial establishments own their own land and buildings; yet the renting of such premises is by no means unknown, and a large part of retail trade is carried on in rented buildings. On the other hand, the rental of machinery is comparatively rare. Manufacturing equipment is owned by the concerns that use it, as is the equipment of the farms and mines and the agencies of trade and transportation.

The practical result of the distinction is that the renter from time to time sees his payment adjusted, by a change in the terms of his rent contract, to the economic rent of the leased good, although such adjustment under ordinary circumstances is likely to be slow. The buyer, on the other hand, has purchased outright all the future rents of the good he has bought. If they rise, he enjoys

an unearned increment; if they fall, he suffers an unearned decrement. The consideration of this point may be summed up thus. All durable producers' goods (above the margin of utilization) yield rent. An owner making use of his own property receives that rent in the form of a larger profit than he otherwise would receive from his business activity. Money rents fixed for definite periods by contract are based on the anticipation of these economic rents, but insofar as the rents actually received vary from those anticipated, either the owner or the renter will, for the duration of the contract, enjoy at the expense of the other a money income equal to the discrepancy.

The student who has followed the reasoning of this chapter should now understand how economists, beginning with the concept of rent as the income arising from land, presently saw an analogous income accruing from all durable productive goods, and how from this the idea of rent as surplus above the cost of the unit of any factor is a short step. One illustration will serve. Two workmen working side by side receive the same wage, but the second produces in the day a value product worth $2 more than the first. This surplus might be called rent, and is so described by some economists.

CHAPTER TWENTY-SEVEN

Interest

THE SECOND form in which property-holders share in the distribution of the national income is through the receipt of interest on money lent (or invested), whether in short-time loans, like those of a bank, or in long-time loans, like those made on mortgages or by the purchase of corporate or government bonds or, as we shall see later, under certain conditions by the purchase of corporate stock. Since a material proportion of the national income is distributed in the form of interest, any adequate explanation of distribution must include an explanation of interest. It should explain why interest is paid, what it is paid for, and how the rate is determined.

The theory of interest has given much attention to the fundamental question why interest is paid. That question is an important one, which goes much beyond the money arrangements suggested in the opening paragraph, but we shall deal with it only briefly, since our immediate concern is with the working of interest under existing conditions of capitalism. The first step in any thoroughgoing explanation of interest must be sought in time relations. The wants and needs of today are more pressing than those of tomorrow. Even highly civilized men experience this unquestionable psychological fact, while the readiness with which savages and a goodly proportion of less sophisticated persons in our own society sacrifice future well-being (or undertake future obligations) to meet today's passing wants is notorious. In such time preference some economists have found the basis for a theory of interest. Those who value highly present as compared with future purchasing power are often willing to pay for the privilege of increasing the former; those who for any reason are willing to forego present for future purchasing power (in other words, to save) receive the interest. The explanation, it should be observed, has nothing to do with money. It is a matter of psychology.

Interest thus considered is not a phenomenon of capitalism. It existed just as truly during the precapitalistic aeons as it exists in the twentieth century. The Code of Hammurabi contains laws about interest. In Russia today time preference exists. No conceivable economic system would be devoid of it. Interest in this sense ties the present to the future. Whatever energy goes to the making of electric generators today, to produce tomorrow's power, cannot

go to making today's bread and cake. A part of tomorrow's cost is paid today by the sacrifice of something that might have been consumed today. How much of today is it worth while to sacrifice for the sake of tomorrow? This is one aspect of the interest problem. It faces all men from the time they begin to live beyond the present moment and to take the future into account. It faces every civilized society, no matter what its form of economic organization. In order to make this unavoidable choice, differing institutional arrangements arise in different societies. The Russian government during the first Five-Year Plan devoted between a quarter and a third of the productive energy of its entire economy to turning out industrial equipment (in order to enlarge future production of consumers' goods) at a time when its people were going hungry and ragged for the lack of sufficient production of food and clothing. It compelled them to undergo increased shortage of goods today (to save) for the sake of increased supplies of goods tomorrow. This sacrifice of the present to the future constitutes the basis of provision for the future and gives rise to interest as the inducement or incentive which will bring about this amount of sacrifice.

In our society such arrangements have taken the form of a complex apparatus of saving and investment, which is worked by means of money sums. Those who work it think and act in terms of money. Most of them never heard of the allotment of productive resources between present and future referred to in the foregoing paragraphs. They have no notion that their action has any connection with that choice. Yet it is their action which in fact effects that determination. We are beginning to suspect that on occasion it may make the determination rather badly.

The Meaning of Saving

Before we become involved in the complexities inevitable in any discussion of interest and interest rates in our own society, let us make certain that we understand precisely what we mean by making provision for the future, that is, by saving. What is it that is saved, and how is it done? The individual promptly answers that he saves money. Mr. Atkins, instead of buying new golf clubs, puts money in his savings account. He walks to his office and deposits the price of gas. His wife dismisses the cook, and her wages are added to the growing sum. The family bank balance steadily rises; but the cook is unemployed, the maker of golf clubs has lost a sale, and the filling station a regular customer. If the process stops here, Mr. and Mrs. Atkins seem to have provided for their own future by making it a little harder for some other people to live in the present, and nothing has been accomplished for the future of the

community. The Atkins family have postponed the spending of money today or tomorrow in order that they may spend it in five years or forty-five years. When Mr. Atkins says he saves money, he means that he postpones the use of purchasing power. How does that postponement benefit future society? Suppose that not Mr. Atkins alone but thousands of men refrain from buying golf clubs. If we then said that golf clubs were saved, we should be closer to reality than we are when we say that money is saved, but we have not yet reached the heart of the process. If the supply of golf clubs in existence is more than sufficient to meet the decreased demand, it is no longer necessary for labor and plant equipment and materials to be employed in making more clubs. If the same thing that has happened to golf clubs has happened to many other consumers' goods, then a considerable portion of the essentials of production can be transferred from making goods immediately useful to goods needed in the near or the remote future. What has been saved is consumers' goods. This saving releases productive equipment, materials, and labor which can be used for production for the future. Notice that we do not say that it will inevitably be thus used. Plants may stand idle and men go unemployed. In that event the saving of the Atkins family, while it gives them future purchasing power, does nothing toward providing future goods for them to purchase.

A still more simple example, from which we eliminate money entirely, will illustrate the relation of saving and investment. A farm family has a supply of wheat which is the sole source of food and of seed for the coming year. If they eat the wheat during the winter, they have no seed and no crop. If they save and plant part of the wheat, the future is provided for. They must decide how much to eat and how much to save for planting. It is not enough to refrain from eating part of the wheat. The part which is not consumed must also be planted. In the same way, the means of production freed from making consumers' goods because consumers are saving must be put to work making producers' goods. This is the second step in the process of making provision for the future.

What Interest Is Paid For

To return to our central questions, for what is interest paid, and how is the rate of payment determined? Interest under capitalism is paid for the use of funds or immediate purchasing power to be retained for a period of time. The explanation of interest thus involves an examination of the demand for and the supply of loanable funds for a period of time, be it (1) terminable at will of the lender, as in call loans; (2) definite for a short time, like thirty days or six months, as in most bank loans; or (3) definite for a long time, as in a promissory

note running for a year or three years, a mortgage for ten, or a bond for thirty. A loan of funds, or purchasing power, is a transfer to the borrower of the use of the purchasing power during the period of the loan. Just as the rent of a farm is the price paid for its use during the rental period, so the interest on a loan is the price for the use of the funds during the period of the loan. Interest is paid because of the multitude of reasons which lead persons to want the use of funds belonging to others, thus enabling the owners to ask payment for such use. The rate or price depends, like every other price, on all the conditions and influences that go to determine the demand for and the supply of that use. In classical theory it is the price which brings to an equilibrium the supply of loanable funds and the demand for them. This assumes the action of competition in a market, just as the concept of an equilibrium price for wheat rests on the working of competitive forces.

It is especially important to note at the outset that the whole theory of interest deals with the sale not of funds but of the use of funds during a period of time, just as the theory of rent deals with the sale not of durable goods but of the use of those goods during a period of time. The theory of money value, or the general level of prices, as we set it forth, is a matter of demand for and supply of money. The theory of interest is a matter of demand for, and supply of, not funds but the use of funds during a given period. The two things, though related, are completely different. To pay a man a thousand dollars in return for goods is plainly different from giving him the use of that sum for a year, as one does by lending. The two transactions are differently motivated, and the two prices are commonly dependent on different conditions. Cheap money, in the sense of high prices for goods, does not mean cheap interest, that is, low rates for the use of money, though there is a persistent popular illusion to that effect, an illusion which has a certain basis of fact in respect to some interest rates.[1]

[1]Up to this point we have dealt with interest in terms of the use of money, the embodiment of purchasing power. Since the borrower borrows usually because he wants to make immediate use of the funds, it is perhaps more strictly accurate to think of him as borrowing the purchasing power that they embody at the time. Interest is ordinarily considered in its relation to a capital sum, the sum of value or purchasing power thus embodied. From this point forward we shall adopt this concept. It should be carefully observed, however, that the payments promised by the borrower, both of interest and of principal, are promises not of definite sums of purchasing power but of definite amounts of money, which at the times of payment may embody greater or smaller amounts of purchasing power than did the corresponding amounts of money at the time the loan was made. Interest contracts run in terms of dollars, no matter what the purchasing power of those dollars at the time they must be paid.

In speaking of his payment of interest or of his desire for funds the businessman refers to it as his need for capital. It will be desirable for our further discussion to adopt his word, but we must do so with caution. The term "capital" is used in a wide variety of senses. As we here employ it, it conveys the idea of a sum of value expressed in terms of a given amount of money. Since interest is always considered in its relation to a capital sum, we have chosen that use of the word as the one which throws the most light on the problem of the interest rate. It is commonly said that interest is paid for the use of capital.[2] In saying this we mean that interest is paid for the use of a sum of value, such as the sum represented by, say, $20,000 at the time a loan of that amount is made. When we talk of borrowing and lending, therefore, in discussing the determination of interest rates, we talk of borrowing and lending capital, a sum of value.

If it is realized that interest is the price of the use of capital during a period of time, it also becomes clear why short-time and long-time interest rates may vary without close reference to each other. They are the prices of different things; the use of a thousand dollars for thirty days is a different thing from the use of that amount for thirty years. Their prices may well have less relation to each other than the prices of wheat and corn or even of corn and cotton. There is of course no hard-and-fast line between long-time and short-time loans. We think of long-time influences as prevailing in the market for loans of a year or more, and short-time influences for loans under a year. It is evident, however, that the conditions determining the rate of interest on a loan for a year might under some circumstances be more nearly identical with those fixing the rate on a sixty-day loan than with those governing what must be paid on a twenty-five-year bond. We shall deal first with long-time loans.

The Demand for Loans

The owner of a small greenhouse believes that he can increase his returns by building an additional greenhouse, but has not the capital to do so. The directors of the American Thread Company decide that the time has come to

[2]We have emphasized the fact that it is the use of capital, and not capital itself, that is bought and sold in the capital market; just as it is the use of houses that is bought and sold in the house-renting market, and not the houses themselves. Nevertheless, the real-estate agent says that rents are high because the demand for houses is great or the supply of houses is small, though he really means that the demand for the use of houses is great or the supply of such use is small. Similarly, in order to avoid circumlocution, we shall throughout the discussion of interest speak of capital, the demand for capital, and the supply of capital; but it must always be remembered that we are thinking of buying and selling not capital but the use of capital.

increase the scale of their operations by building and equipping a new plant, but they lack purchasing power for the purpose. A city government considers it necessary to build a bridge, but it lacks funds. A responsible professional man with a good income wants to build a house, but has not the immediate financial resources necessary. We shall assume that none of them borrows, technically speaking, in the long-time loan market. The owner of the greenhouse goes to his bank, which we think of as primarily a short-time loan agency, but this loan it has to determine on the basis of long-time considerations. The thread company does not borrow at all; it sells ownership shares. Yet greenhouse-owner, thread company, city government, and housebuilder alike actually come into the long-time loan market trying to raise capital for which interest must be paid. In ordinary phrase, each of the four lacks capital to carry out the purpose immediately in mind, and the carrying out of that purpose depends on the ability to obtain the use of capital.

In all these illustrations what is it that is really wanted? Land and glass; building materials and machinery; concrete, fabricated steel, and all the other things that go to the making of a bridge; the various materials and parts that enter into the building of a modern house; and everywhere labor for the doing of the task. The first step in getting any and all of them is to gain immediate control of funds. It is the use of this money sum that the business enterpriser, the city, or the housebuilder seeks when he goes into the capital market. Though each one expresses his desire in terms of a sum of money, and though the price he is willing to pay is in terms of a percentage of that sum, what he wants is to obtain goods and to obtain them at once. With a few exceptions, his borrowing is only a step to that goal. The borrowers of our illustrations are of two classes. The first two want to get the use of funds as a means of acquiring producers' goods; the second two, consumers' goods. Though they differ in the purpose to which they propose to devote the funds, they are exactly alike in creating the demand for funds. That demand in the long-time market is made up almost wholly of the demands of those who want loans for the purpose of creating or acquiring producers' goods and durable consumers' goods. The demand for funds to obtain consumers' goods we dismiss here with the single remark that it is a relatively small part of the total demand for funds and may be explained by time preference.

Borrowers of the first class, businessmen and corporations, want to borrow because they believe that they can use the borrowed funds at once in such a way as to bring in a net return at least as great as the interest they are obliged to pay. The florist of our example borrowed $2000 at 6 per cent per annum for six months (with the expectation, we will assume, of renewing the loan at the end of that time), in the belief that with the new greenhouse he could

increase his returns not only by the $120 annually required for interest but by additional profits. It is to his advantage, as we have already seen, to expand his facilities to the margin where further additions to equipment will pay for themselves in additional product but will do no more. He may borrow $2000 at 6 per cent, but nothing at 7 per cent. It is the hope of future gain that prompts him, and the limit to the amount of interest that he will pay is determined by his anticipation of the returns that a greenhouse built by the use of that amount can be made to yield him. The limit of the interest rate he can afford to pay is the ratio of anticipated added yearly return to the cost of the greenhouse. The same thing is true of all borrowing for business or productive purposes. This is not to say that the rate of interest itself is thus fixed, but only that the possible limit which the business concern can afford to pay is determined in this way, and from the varying estimates of future productivity and profit the demand schedule of business enterprises is determined.

From this point of view it may be observed, first, that it is future expectations which affect the demand, and, secondly, that a dynamic and rapidly progressive industrial situation is favorable to a high interest rate. Rapid progress of invention, for example, creates a continuing demand on the part of businessmen for additional capital to provide them with new and improved producers' goods, which they expect will yield them increased profits. The expectation of greater profits will raise the anticipated relative return on new capital investments and thus raise by so much the limit of the interest rate that the producer will be prepared to pay at need. We have called attention here to the fact that the borrower must compare possible productivity with the cost of the producers' goods which he must buy. He must then compare the resulting potential profit with the rate of interest which he must pay.

At this point we must remark the existence of another motive at work in the business world, which gives rise to a different kind of transaction. While it more properly belongs to the short-time market, its influence is felt in the long-time market also. On occasion there are borrowers who do not exercise, or do not exercise immediately, the purchasing power which they borrow. Their desire is not to obtain control of goods but to have at immediate command liquid purchasing power. We do not here inquire into their reasons, but we must remember that at times they constitute an important group among the borrowers of capital. Money as money gives to its possessors a feeling of adequacy no matter what the needs, and those whose desire for money for unforeseen needs ("liquidity preference") is high are willing to pay a high rate of interest.

The demand for loans in the long-time market thus may be looked at in the same way as the demand for any goods or services. Belief as to future

price movements and possibilities of profit, opinions as to future needs or future risks, all enter into the intensity of the desire of the demanders for loanable funds and help to shape the demand schedule. Certain would-be borrowers may be prepared to borrow a given sum at a certain interest rate, and a larger sum at a lower rate, just as certain housewives were prepared to buy more strawberries at a lower than at a higher rate. Such is the common situation in business, and to no small extent in municipal affairs. Businessmen find a low interest rate an inducement to borrow funds for the purpose of expansion, while cities embark more freely on public works at a time when they can borrow cheaply. On the other hand, some possible borrowers may contemplate borrowing fairly definite sums for specific purposes no matter what the rate. The man who plans to build "as soon as he can afford it" will probably borrow no more at a low interest rate than he would at a high one. Below the maximum rate which he will pay, changes in the price of funds will have no effect on the amount of his borrowing; but at low interest rates there will probably be more housebuilders. There can be little doubt that in times of reasonable business activity the demand for loans in the market as a whole is fairly elastic, both because some individual borrowers borrow more at low rates and because there are more borrowers. The demand schedule for long-time loans may be pictured in just the same way as any other demand schedule. For short-time loans this conclusion is more questionable.

The Supply of Loans: Saving

We turn to the supply side of the interest problem. Who provides the funds that pass into the hands of borrowers? In other words, who are the sellers of the use of the capital which borrowers buy? We must first assume it to be those who own purchasing power that they themselves do not wish to use immediately, or sometimes ultimately. Owning capital, they forego the control that it would give them over present goods, or rather transfer such control to borrowers in return for an interest payment. As we shall see, they by no means represent a homogeneous group, all animated by like motives. No matter how various their motives, their individual supplies of loanable funds make collectively a large part of the total supply. But they do not make all of it. Banks, by processes which we have already examined, can and do create loanable funds, which require separate consideration. For a time we shall ignore the purchasing power created by banks and consider the individual savers as the source of capital to be lent.

Who are the savers? Chiefly the wealthy and well-to-do members of the community. Our most useful information comes from the work of the Na-

tional Resources Committee.[3] Their figures indicate that 59.2 per cent of family and individual income-receivers, those with incomes under $1250, saved nothing in the year 1935–1936 and used 25.7 per cent of the savings of other groups. Those with incomes under $5000, 97.6 per cent of the income-receivers (family and individual), saved 46.5 per cent of the savings of the year; those with incomes of more than $10,000, who constitute .9 per cent of the income-receivers, provided 58.8 per cent of the year's savings. It is unnecessary to say that such figures at best can give but a rough approximation to the facts, but they suggest the incorrectness of the widespread idea that the aggregate savings of the poor make up a large proportion of all savings. The practical question concerning the supply of loans, therefore, is What conditions govern the savings not of the poor but of the well-to-do and the rich?

As these figures indicate, the pressure of immediate wants is so strong that more than half the income-receivers as a group save nothing and, in the year investigated, received help from past savings or from the savings of others. In the 15.8 per cent of those receiving between $2000 and $5000, income provides so much more abundantly for immediate needs that the future looms larger in the family budget and saving is to be expected. These families provide 37.5 per cent of our savings. It is to this group that our ordinary picture of the saving process most nearly applies: the anxious weighing of provision for the future, usually for old age or for family dependents, against insistent pressure of present wants, in gratifying which the entire income could only too easily be employed. As we pass to the range of incomes enjoyed by the richest 1 per cent of our population the facts bear less and less resemblance to this picture, and we reach a point where saving becomes all but automatic —that is to say, no significant sacrifice of present wants is involved.

Let us apply these considerations to the supply of loans. Within the group with incomes between $2000 and $5000 will be found a conflict of desires. Here, to save for the future involves a genuine sacrifice of present enjoyment. Each dollar set aside deprives the family of immediate and desirable consumption. How much must be paid to induce this sacrifice? Perhaps nothing. There undoubtedly are within the group those so oppressed by future forebodings that they would save with no interest payments whatever. They might carry their prudence to the point of paying in order to have their savings protected, thus accumulating funds at what might be called a negative

[3] *Consumer Expenditures in the United States: Estimates for 1935–36*, p. 48. The table from which the figures which follow are taken includes both families and single individuals. The net saving of the savers equaled 125.7 per cent of total savings, to offset the negative savings of the lower income groups. For further discussion of saving see Chapter Twenty-nine.

rate of interest. Their attitude may be the result of the belief that their future wants will be greater than those of the moment or that their future income will be less. With such savers, time preference is nonexistent or extremely low. This does not tell us whether the amount of their savings is divested of all connection with the interest rate. Will they save larger amounts at a higher rate? Granted that the facts which would answer that question are not known, we may surmise that there would be some increase in the amount of savings offered at a higher rate than at a lower one. One reason for this is that the higher rate would provide larger incomes from which savings could be made. It is true that among savers there are a few who are attempting to accumulate definite sums of money. If they think of a certain income that they wish to assure for themselves or their children, then the higher the interest rate the smaller the capital they will have to accumulate, and it is a fall instead of a rise in the interest rate that is favorable to saving. But such savings probably constitute an insignificant fraction of the entire body of loanable funds.

With the wealthy group, especially with the richest 1 per cent of our population, savings become almost automatic. They save because they cannot spend all their income. Does a higher rate bring forth from them greater savings? There is no very evident reason for believing that those who do most of our saving change their practices and habits in that respect as the interest rate goes up or down. They save or spend, it may be confidently asserted, without any consideration whether this year's savings promise to yield them 4 per cent or 5 per cent. On the other hand, since a considerable part of the income of the rich comes from interest payments, they will, if interest rates are high, have larger incomes, and therefore more to save, on the legitimate assumption that their consumption does not increase as fast as their income increases.

The dominant influence at work in the determination of how much income is to go unconsumed is to be found in the relation of the year's income to the accustomed standards of expenditure, rather than in changes in the interest rate. However, we have not yet finished considering the action of the saver. He is not done with the making of decisions when he resolves to limit present consumption with a mind to the future. He must still decide whether he wishes to part with his unexercised command over goods and, if so, on what terms. The rate of interest, to quote the cogent words of the late Lord Keynes, "is a measure of the unwillingness of those who possess money to part with their liquid control over it." For what reward will the saver surrender his control of his savings? In other words, what rate of interest is necessary to overcome his preference for a liquid sum? Here we find the connection between the supply of savings and the interest rate for which we have been in search. It is probably true that the proportion of income unconsumed

(saved) by various groups each year is not in any considerable measure responsive to changes in the interest rate; but if we regard the interest rate as the price which brings to equilibrium the desire on the part of demanders to obtain immediate purchasing power with the reluctance on the part of suppliers to part with "liquidity," then changes in the rate take on greater significance.

Many influences, both subjective and external, enter into such preferences. It has already been implied that habits of saving, or, to turn it about, habits of consumption, are of the greatest importance in determining the amount of saving. The adequacy of incomes to the easy maintenance of the living standards which have become embedded in the life of the people, and the inequality in the distribution of income, which places in the hands of part of the people incomes too large to be consumed, enter into the determination of the actual volume of savings. The standards of efficiency and of integrity established in any community affect the willingness or reluctance to part with money sums. Belief as to future price movements, belief as to future needs or future risks, all enter into the reluctance of the suppliers to surrender control of loanable funds, as they enter into the eagerness of the borrower for funds.

The consideration of the supply of loanable funds is by no means complete until we include the part played by the banks, already mentioned as complicating any explanation of the supply of loanable funds. It is true that savers furnish loanable purchasing power, but we already know that in the short run our banking system can, under certain legislative restrictions, increase or decrease the supply of funds with little immediate relation to any increase or decrease of savings in the community. In their loans to businessmen or to the government, banks are not animated by questions of time preference; their decisions as to amounts offered at varying interest rates depend on the direct or indirect influence of liquidity preference. It is not necessary to add here any further discussion of this power on the part of the banks, but it is most important to bear it in mind. It constitutes an important element in the congeries of problems connected with interest.

The Capital Market: the Process of Lending

Before turning to a discussion of the loan market in which the forces of demand and supply meet and the long-time rate of interest is determined, we need to understand that we are dealing with the borrowing by our great corporate organizations and what we call the investment by the body of investors. This is accomplished by transfers of securities, more often described as sales than loans; but it is the use of purchasing power which is being trans-

ferred. It is first necessary to make clear the process of borrowing and lending, the difference between individual borrowing and corporation borrowing, and the meaning of investment. The simplest process is this. A receiver of money income spends only part of it for consumers' goods; the remaining portion he saves. This portion he turns over (lends) to a borrower, receiving in return a loan contract. He has sold outright to the borrower part of his buying power in return for the future obligations undertaken by the borrower and stated in the contract. The latter, now in possession of the capital, with all possible speed exercises his newly acquired purchasing power by investing in producers' goods or possibly in durable consumers' goods (such as houses built with borrowed money). At this stage of the operation, it will be noted, the capital, as a sum of purchasing power, has passed out of the hands of the lender into those of the borrower, and out of his hands into those of the seller of the producers' goods which the borrower has acquired. The borrower now owns the producers' goods in which he invested his loan, and against his business he has created an obligation: first, to pay a fixed amount of interest each year; secondly, at the end of the loan period to pay to the lender the sum of the principal. The lender, on his side, has only the contract calling for future payments, with whatever security for such payment has been agreed upon.

Let us now examine the effect of the quasi-public corporation and the public market for securities on the position of the individual in respect to investment (the embodiment of capital in material goods) and lending (the transfer of the use of capital from one agent to another). The very words have come to have a new meaning, and the actually significant industrial processes have thereby become obscured. When an individual invested in industry under the traditional conditions, he used his money to buy the producers' goods necessary to set up a business and expected to receive income by running the business. Once he had invested, there was no way in which he could take his money from the business save by selling it as a whole. The essence of his investment was thus the embodiment of his capital in the material goods required for the business. The capital ceased, as we say, to be liquid. On the other hand, when an individual lent to another, for long-time purposes, as described in the preceding paragraph, he commonly took as security a mortgage on concrete property, like a house and lot, the stock and tools of a farmer, or whatever it might be. If the covenant was not fulfilled, he was free to take over the property, which could thereupon be sold, and the lender would again be in possession of his capital in the form of money.

The coming of the quasi-public corporation and the public securities market has completely changed all this *as regards the corporate section of our economy*. In the first place, the individual has wholly ceased to be an investor, as invest-

ment is described above and as it has been understood historically. Investment is performed exclusively by corporations, which alone take the capital put at disposal by savers and embody it in producers' goods of every kind. What we now call investment by individuals is a wholly different thing from what was formerly meant by that term, as we shall show in a moment. The producing corporation, like General Electric, the New York Central Railroad, or the F. W. Woolworth Company—the corporation engaged in the actual production, transportation, or handling of goods—has become the sole investor. It alone transforms capital into concrete goods and it alone expects (if we may use the word with reference to an organization) to get income by running the business in which it has sunk its capital. All individual rights and expectations focus on the corporation. Its capital (not that of the individual) has ceased to be liquid, and this, as we said above, is the very essence of investment. The only way in which the capital can be made liquid is by finding a purchaser for the whole business, and the act of sale must be the act of the corporation, not of any individual. Absolutely every function, power, and liability of the investor as once understood has passed over to the corporation. The individual investor in the older sense has ceased to exist, but the terminology has not kept pace with the facts.

There are today some millions of persons in the United States who have "invested" in our corporations and who draw income from them. Who is this individual investor in a corporate world? We call him by the old name, but he is in reality a new phenomenon. He is the buyer of corporate securities, whether stocks or bonds. Observe how he differs from the traditional investor, who was the owner with all the powers and responsibilities of ownership.

First, the "investor" today may be either owner (stockholder) or lender (bondholder). If he is an owner in the eyes of the law (a stockholder), he has in fact, as we know from our study of the corporation, lost practically all the powers and responsibilities of ownership and has become substantially nothing but a person who hopes for income from the corporation. If in the view of the law the investor is a lender (bondholder), still he does not enjoy the protection at the disposal of his predecessor in individual enterprise. Suppose he has bought $10,000 worth of a bond issue of the New York Central Railroad, secured by a first mortgage on the entire track of the railroad between New York and Albany. The railroad defaults. He cannot foreclose and take over $10,000 worth of track. All the bondholders acting together cannot take over the track on which their mortgage rests, and even if they could, they could do nothing with it. They could not use the tracks, and the tracks are worth nothing except in connection with the other equipment of the road and the great organization which employs it. The most that the bondholders could

do would be to throw the road into bankruptcy and then fight out their claims with all the other groups of bondholders and stockholders in the subsequent reorganization proceedings. They would end by taking whatever share of the "ownership" or "debt" of the corporation was finally awarded to them by the court having jurisdiction over the bankruptcy proceedings. This particular form of individual lending to the corporation thus turns out to be little more than the shadow of lending to the individual enterprise.

Secondly, whether he buys stocks or bonds, the individual investor never really invests his funds, though the corporation, as we have pointed out, does invest the funds put at its disposal. Because there is a public market for listed securities, their purchase, so far as the individual goes, does not even tie up his funds a moment longer than he wishes. Under any normal circumstances he can go to his telephone and turn his securities into cash at five minutes' notice, be they bonds or stocks. His "investment" turns out to be in essence a call loan, differing from the latter in the fact that in calling it he has the right to demand not a fixed sum of money but whatever may happen to be the market price of his securities on that day. Such investment is not at all the same thing and does not have the same effects as a farmer's investment of $10,000 in buying a farm and its equipment, or a moneylender's loan of $5000 to the farmer on mortgage to complete his payment.

From all this it should be clear that the relationships in the capital market are today far more involved than in the days when it was a matter of individuals dealing with individuals, as borrowers and lenders. One further complication must be added. Between savers and investors there are frequently middlemen —the so-called institutional investors: savings banks, life-insurance companies, and like organizations. To the savers they represent the demand for capital; to actual investors, in the older meaning of the term, they offer a supply of capital—that is, they have capital whose use they are prepared to sell. They are prepared to buy mortgages, bonds, and stock, to mention only the three chief forms of lending. On the other side stand those who want to buy the use of capital. These include individuals, corporations, and the government. They want to sell mortgages, bonds, and stock. When a corporation needs the use of additional capital, being unable or unwilling to provide it out of its own earnings, its directors decide on the form their bids will take. Will the sale of stock or of bonds offer a better means of such provision? If they decide on bonds, they put behind the issue whatever security seems best adapted to their purpose, ranging all the way from a mortgage on specific property or the entire property of the corporation to no security at all except the general credit of the corporation. If the directors decide to issue stock, they hold out to the buyer no promise of a definite return (except a half

promise on preferred stock), but a hope of sharing in the profits of the business, with no specific legal recourse if there should be default.

The two forms of securities constantly compete, and the determination of long-time interest rates is consequently a matter of the market for corporate stocks as much as of that for bonds, mortgages, and other long-time loans. As was pointed out in Chapter Nine, the investor, in the newer meaning of the word, buys stocks or bonds with complete indifference, basing his choice solely on the comparative rate and security of the anticipated return. A corporation stockholder looks on his dividends as a return on the money he paid for his stock, though they are in fact a distribution of corporate profits to owners. Legally he is an owner, but he thinks of himself in the light of an investor, just as does the bond-buyer. The actions of both, so far as they are rationally determined, rest on the anticipation of future income from the investments. The competition of the two forms of investment, namely, the bonds and the stock of any particular company, tends to tie together the selling prices of the two classes of securities in such a relation as to equalize, after making a proper allowance for differences in risk, the return on an equal amount of money invested in each of the two. Consequently the supply of loans to corporations (bond purchases) and of ownership capital (stock purchases) is essentially one supply, not two, and the demand for capital by corporations in the form of offers to sell bonds and stocks is one demand, not two. As far as the long-time capital market is a corporate market, therefore, it makes no serious difference, in determining the interest rate, which form of security is offered. The interest rate will be the one that will bring to equalization the demand for and the supply of securities of both types.

One further point deserves notice. The "investor" in corporation securities, as far as he supplies capital, must be thought of as supplying it not to the particular corporation whose securities he buys but to the capital market as a whole. Evidently, if an investor buys 100 shares of United States Steel stock from another holder, he has not supplied capital to the steel corporation, which got whatever capital it received for the stock at the time when it was issued. Suppose that our investor pays $75 a share for the stock on the stock exchange. He has poured $7500 into the share market, helping by so much to drive up the price of steel shares and by so much to reduce the rate of return realized on what must be paid for them. But unless the comparative advantages of steel stocks and other securities are different from what they were before, to drive up steel shares will lead buyers to turn their attention to other issues and thus, by raising the prices of the latter, to re-establish them in the old relation to steel shares. The bringing of fresh investment money into the market, even if concentrated at first on a single issue, will tend to raise

the price of other issues as well and consequently lower the rate of return on them. In other words, an increase in the supply of the use of capital at any point in the market will have a tendency to lower its price, that is, the rate of interest, all through the market. Similarly, the bringing out of new issues, no matter whether stocks or bonds, will tend to lower security prices in general and, by an increase in the demand for the use of capital, to raise the rate of interest throughout the market. The activities of investors (security-buyers) and of corporations (security-sellers) accordingly must be thought of in relation to their effect on the capital market as a whole, and not simply in relation to the particular issues in question. In a basically important sense the securities market is one market.

The conclusion emerging from this discussion is evident, and it is one that is carefully regarded by every intelligent corporation management. Whatever the interest rate at any time prevailing in the securities market, that rate a corporation marketing a new issue will have to pay. If it issues bonds, then during the period for which the bonds run it must pay that rate, because its bonds will sell on a basis to yield the buyer such a rate—assuming, of course, that the issue is made honestly. If new stock is sold instead of bonds, exactly the same conclusion follows; but the problem is less determinate, because the dividend anticipations are less definite than the return specified in the bond. Once the principle here set forth is grasped, it will become clear how the rate of interest runs through the whole problem of corporate finance and exercises a significant influence in determining the issue of new corporate securities. In so doing it helps to determine the distribution of the national income during the whole period for which those securities run—a period which, for stocks, is generally the life of the corporation.

Some of the long-time interest contracts in force today were made in the light of expectations entertained in the later decades of the last century. Whatever the present condition and prospects of the debtor organization concerned, the contract of 1888, if unmodified, is helping to decide the distribution of income produced by that business today. Similarly, some of the contracts made today may stretch forward to help determine the income distribution of 1988.

Real Versus Nominal Interest Rates

In this connection, the distinction between the rate of return specified on a bond or other evidence of debt and the rate of return received by the buyer on what he actually pays for it must be kept in mind. It is the return on the price received at issue which really measures the rate of interest paid by

the debtor and received by the creditor. If a corporation issues a $1000 4 per cent 50-year bond, it has obligated itself to pay $40 a year for fifty years and at the end of the period to pay (or, as we say, to pay back) in addition $1000. If such a bond, however, sells at issue not for $1000 but for $800, the corporation must pay $40 a year interest for the use of $800, or 5 per cent. It must also pay at the end of fifty years the $1000 of its agreement, not the $800 actually received. The interest that it pays on its actual borrowing ($800) is thus slightly above 5 per cent, though its contract is in terms of a 4 per cent obligation. It is this actual interest rate with which we are concerned. To figure that rate for each particular security issue it is necessary to know both the stated interest rate and the price at which the issuer sells it or the buyer buys it.

The actual rate paid by a particular debtor on a particular issue is made up of two parts: first, what the economist calls the "pure" interest rate, the rate on a theoretically riskless investment; secondly, an additional rate covering the risk on the particular issue of the particular debtor, and whatever costs are involved in making the loan. It is the "pure" interest rate that we have had in mind in our study of the long-time interest rate. It is, at least in theory, the same for all debtors in any loan market at a given time. The differences in the rates that different debtors must pay at the same time depend on differences in their credit. When the same debtor pays different rates on issues made under similar conditions, the difference results from differences in the priorities and accordingly in the security behind the various issues. Since the rate of return on the face value of the bond is fixed, differences in the actual rate of interest that the debtor pays are reflected in the only way possible, by differences in the price at which the bond sells at issue. After the company has disposed of the issue, it is not interested in fluctuations in the market price of that special issue, since it has already received from the issue the full amount that it will ever get. It is much concerned, however, with market prices of outstanding bonds, in view of possible future issues. The higher those prices the better the credit of the company, and the more cheaply it can raise additional capital as needed.

The table at the top of page 517, showing prices of a few selected issues on the New York Stock Exchange, serves to illustrate the difference between nominal and real rates and affords some indication, at least, of what the various issuers might conceivably have had to pay for money at the date given.

What the "pure" interest rate was it is impossible to say, perhaps somewhere around 2 per cent. United States government bonds at the time were attractive investments. The 2½ per cent bond, due in 1972 but callable from 1967 on, was selling at $6 above par; the 3 per cents, due in 1955 and callable in 1951, at 110.3, with yields of about 2.3 and 2.7 per cent. The credit of

Table XXII · Bond Prices, April 4, 1946

	RATE	DUE	PRICE
United States Treasury	2 1/2s	1972–67	106
United States Treasury	3s	1955–51	110.3
Canada	4s	1960	112
Norway	4 1/4s	1965	106 3/4
Brazil	3 3/4s		64
Chile	6s	1960	29
American Telephone and Telegraph	3s	1956	151 1/2
Standard Oil of New Jersey	3s	1961	103
Boston and Maine Railroad	4 1/2s	1970	82 1/2

Canada and that of Norway were slightly below that of our own government, the yield from their bonds being 3.5 per cent for the former and about 4 per cent for the latter. Brazil and Chile suggest much less secure investments, the yield of more than 20 per cent on the Chilean bonds telling a story of defaulted interest and an uncertain future. The American Telephone and Telegraph Company was selling at a price which would have yielded to investors less than 2 per cent; Standard of New Jersey, slightly over 2 per cent, while the yield of over 5 per cent on the bonds of the Boston and Maine is a reminder of the uncertain earning of that road. The actual yields on the various securities to some extent reflect the market judgment of the rate at which the issuers theoretically could have borrowed at that time. Actually some of them could not have borrowed at all, and prices represented little more than the holders' hopes of possible realization from outstanding issues.

Before leaving the discussion of the capital market we may with profit return to a question that we raised by implication when we cited the classical teaching that the interest rate brought equilibrium between supply of funds and demand for funds; for it is in the capital market that the interest rate is established, and it is here that the equilibrium exists (if it does exist). If this is valid there could never for long be unused savings, for a low rate of interest would cause the stream of savings to contract. Savers, unable to command a satisfactory interest, would increase their consumption. On the other hand, at low interest rates investment would be greater. The market rate would be that rate which would adjust the amount saved and the amount called for by investors. If savings increase, the rate will fall, but there are more entrepreneurs ready to invest at this lower rate; if demand increases, the rate will rise, and at this higher rate there will be more savings available. What is there in the discussion of this chapter which, either directly or by implication, bears upon the validity of these conclusions? First, it appears that savings may perversely increase in spite of a falling interest rate. This may come about because there are strong motives for saving quite unconnected with the rate, or because fixed habits of consumption to a considerable extent determine

the amount of savings. But under such conditions it may be that the interest rate is necessary, if not to induce savings, to induce savers to part with their funds. Secondly, we have seen that savers are not the only sources of supply. Banks may add to the volume of loanable funds, or contract it, and further complicate the equilibrium adjustment; the government also may act as both a demander of and a supplier of capital. Thirdly, entrepreneurs, the chief demanders, who are to do the investing, make their decisions on the basis of profit expectations. A high rate of interest will deter them only when it is high as compared with their hope of future returns. We have already ventured the surmise that for long-time borrowing a high rate acts as a sharper deterrent than it does for short-time loans—that is to say, that the demand schedule for long-time investors is more elastic than that of short-time borrowers, whose needs are shortly to be discussed. Fourthly, at times the strongest motive at work on demand schedules and supply schedules is the desire for liquidity, and interest rates seem high or low only as compared with the strength of the desire for liquid funds.

Short-Time Interest Rates

When the economist speaks of the rate of interest, it is the long-time rate such as we have discussed above to which he refers. Short-time interest rates are likewise important, but to some extent they respond to influences different from those prevailing in the long-time market. They are the rates on call loans, on ordinary short-time bank loans, and on other obligations like Treasury notes for thirty, sixty, or ninety days. Borrowers on call are almost wholly speculators trading on margin, who pledge securities as collateral. At times of speculative excitement, with large gains or losses in prospect, they may be willing to pay extravagantly for such temporary accommodation. Even under ordinary conditions the large profits of successful operation warrant the speculator in paying rates that would be ruinous to almost any concern engaged in productive business. Call-money rates thus may run to extremely high figures. On the supply side, call money represents excess bank reserves accumulated in New York. Normally the New York banks are glad to make available surplus funds (that otherwise would be earning nothing) at whatever rate they will bring. A sudden tightening of the money market, causing the banks to withdraw funds and thus reduce the supply, may jump the rate almost overnight, and sometimes to extraordinary heights. The average of rates on new call loans in New York during March, 1929, was 9.8 per cent; from May through September, 1935, .25 per cent; while call-money rates reached 125 per cent during the "rich men's panic" of 1907.

Call loans are like long-time loans in that they constitute a sale of the use of funds. Otherwise they are almost completely different. To get the use of funds for a day or a month, subject to their recall at twenty-four hours' notice, is different in kind from getting their use for fifty years, subject to no condition but the prompt payment of interest; by the nature of the two loans they have to be used for different purposes. They are no less different on the supply side. What is sold in the former instance is the use of banking funds, held in that form for the very purpose of making short-time loans and temporarily not in employment elsewhere. What is sold in the latter case is the use of the funds of investors, definitely intended to be sunk permanently in industry. If the work of the commercial bank is recalled, it will become clear that call-loan rates are related to the conditions that determine the value of money, that is, the price of goods (including securities), in ways and with a directness that are not true at all of long-time rates. Call-loan rates may therefore be affected by monetary and banking policies to an extent in no way characteristic of *the* rate of interest.

Other short-time rates—such as those on ordinary bank loans, on commercial paper and bankers' acceptances, and on three-month and six-month Treasury notes and certificates—are by no means so sharply different from long-time rates as are the rates on call loans. There is a difference between the influences which the commercial banker must study in deciding at what figure he can most advantageously set his discount rate and those which the investment banker must take into account in determining the price at which he can probably sell a new bond issue. The distinction between the two markets is a valid one; but at the same time that we make it we modify its force somewhat by adding that loanable funds can flow from one market to the other, and thus can keep long-time and short-time rates in a certain rough relationship. Suppose the interest on grade A bonds in the long-time market is high and that on prime commercial paper is low: loanable purchasing power will be freely available to those who offer bonds; its scarcity in the short-time market will drive up the price (rate) which must be paid for it there, until the rate moves toward that in the bond market. When banks are unable to find short-term investments, they hold more and more of their funds in long-time bonds. The barrier between the two markets is lowered, though it still exists. It can be said, however, that short-time loans, like call loans, are sought as temporary accommodations, and that they are made out of the same banking funds which furnish call loans and not out of the investment of savings. The rates on such loans fluctuate less than those on call loans. The latter are wanted by speculators, ordinary bank loans by merchants, manufacturers, governments, and all others who desire the use of funds for a short time only; so

that the conditions of the demand are different, though not unrelated. Both classes of loans are made out of banking funds, and in so far are subject to the same influences on the supply side. They are made on different terms, however, and in so far are subject to different influences. Both, however, belong in the class of bank or short-time loans, subject to the direct influence of monetary and banking conditions in a way that is not true of long-time loans.

The importance of the short-time, as compared with the long-time, interest rate in the distribution of income is small, though its effect on business activity and consequently on production is often large. The short-time rates affect distribution as between borrowers and lenders for brief periods only, and the whole body of such contracts at any time outstanding is likely to be at rates not much different from those at the moment prevailing. Long-time rates, on the contrary, as already pointed out, affect income distribution in some instances for decades, and indeed, as far as they are reflected in stock prices, indefinitely. Further, the volume of short-time as compared with long-time credit is relatively small. Bank loans at the height of the speculative fever in 1929 attained a peak of 42.2 billion dollars. In the middle of 1932 they fell to 27.8 billions, and a year later to 22.2 billions. As of about 1932 the Twentieth Century Fund estimated the total of internal debts in the United States —chiefly mortgages, corporate bonds, and long-time government debt—at more than 130 billion dollars. The book value of outstanding capital stock in 1929, according to *Moody's*, was above 160 billions. Add the two together, and the total to which the long-time interest rates of the past directly or indirectly apply is more than six times the total of bank loans at their peak in 1929.

CHAPTER TWENTY-EIGHT

Profits

PROFITS may be simply defined as the gains of business enterprise, those gains which presumably go to the decision-makers and risk-takers of Chapter Seven. The term includes both individual and corporate profits. Profits are diversely figured, and the word popularly covers a great variety of gains, but the idea is simplicity itself: the excess of the money receipts over the money costs of a business undertaking, be it a shoe-shining parlor or a General Electric Company. They seem, therefore, purely contingent earnings, dependent on the success of the particular enterprise, though this conception of them we shall modify somewhat as we examine them. The national total of the profits of a year is the sum of the separate profits of the millions of independent undertakings that operate profitably during that year. Over against them may be set the losses of the other millions that operate unprofitably. Notwithstanding everyday language, there is no such thing as a rate of profits, as there is a rate of interest on money capital, or as there are rates of wages for labor of different kinds.[1] There are only separate sums of profits arising out of the operation of separate enterprises, though the profits of separate undertakings may to some extent rise or fall together, from causes over which their proprietors have no control. But profits are the gains of distinct business enterprises.

[1]It should be noted that corporate profits are often stated as being at a certain rate on the outstanding capital stock. Such a so-called rate of profits may be 20 per cent one year, 5 per cent the next, 10 per cent the year following. The "rate" is nothing but a comparison of the profits of the corporation in a particular year with its capitalization. It does not mean that the corporation continually earns a definite rate of return on its capital. Much less does it mean that all corporations in a given year earn the same "rate" of profits on their capital, in the same way that all have to pay essentially the same rate of interest on capital they borrow or the same rate of wages to labor of the same grade. Of course, if the profits of a corporation over a series of years are thus compared with its capital, a certain basis may be established for guessing at what may be hoped for in the way of future earnings. Such a guess may become important in helping to determine what price buyers will pay for its stock, and the price of the stock may become roughly a capitalization of the anticipated earning power. In other words, an informed investor may buy the stock at such a price that the anticipated earnings will yield interest at the current rate on the price paid. This does not mean, however, that there is anything that can legitimately be called a rate of profits, comparable with wage and interest rates.

A few examples will illustrate the diversity of profits, as the term is commonly used. A small merchant, probably making no allowance for his own labor or for interest on the capital that he has tied up in his store and stock, balances his books at the year's end. He finds his stock unchanged, and discovers that he has taken in two thousand dollars more than he has paid out during the year. This he calls his profit. A neighboring farmer, from his incomplete books, figuring over the year's income and outgo, ruefully concludes that he has lacked three hundred dollars of covering expenses. He thinks of that amount as his loss. A keener analyst might point out that he failed also to get any return, above a meager living, on his capital and his year's labor. A speculator has had a good year as a result of lucky or skillful buying and selling of securities. When he comes to make out his income-tax return, he finds that he must report a profit of twenty-five thousand dollars. The United States Steel Corporation, after paying all its operating expenses, after making proper allowances for depletion of its mines and for depreciation and obsolescence of its enormous equipment, after meeting interest on its bonded debt, and after paying taxes of all kinds, including the Federal tax on corporate income, finds at the year's end that its books still show a net profit of a hundred million available for the payment of dividends, or, at the directors' option, for retention in the business, with corresponding addition to corporate surplus. In everyday usage these widely different gains are all called profits.

Individual Profits

The student of economics tries to be more analytical and discovers that his first difficult task is to define precisely what he means by "costs." The small merchant's profit, he points out, is probably in large part (1) compensation for his own work, the wages that he would have to pay a clerk for doing the work he does himself. In small part it may be considered as (2) interest on the capital that he has tied up in the business. It may be viewed in some part as (3) a return for the skill and intelligence with which he runs his store, the wisdom of the decisions he makes, and the risks he bears. If he is a marginal entrepreneur, this third category is just enough to induce him to make the decisions and bear the risks; if he is better than marginal, it includes an additional sum due to his superior ability as entrepreneur. The minimum return closely resembles wages paid for the performance of specialized services; the additional amount is a surplus akin to rent. Shares (1) and (2) above, as returns necessary to the agents of production if production is to be carried on, are unquestionably costs. What of (3)? The merchant, as decision-maker and enterpriser, is also essential to production. Clearly, if he is to continue his

enterprise, some return to his activity as manager must be forthcoming. Such return—designated as wages of management—is a necessary cost of the business. If he is a superior merchant, who by his unusual ability brings in year after year a revenue much larger than that of similar shops, is this larger return a cost? In the long run, yes. His superior abilities, if offered to other employers, would command a higher salary than less able managers receive, and a reward comparable to that which he could earn as an employee becomes an implicit cost of his own business. This leaves us with one element of profits certainly regarded as costs and modifies the notion that total receipts minus costs equal profits. Such an interpretation of costs and resulting profits, though theoretically correct, is remote from popular usage and —even more important —offers less help in understanding the realities of distribution than does a compromise between the loose popular employment of the word and the economist's attempt at rigorous definition. In this chapter wages of management are included in gross profits, despite the fact that they are as much necessary costs as are wages and interest payments. Here we also include in the long run surpluses arising from superior ability, described above as akin to rent. Pure profits become those contingent returns entirely outside the control of the enterpriser and in no sense to be regarded as payments necessary to retain his services. Thus three different elements are somewhat unhappily united under a single term.

Though far from satisfactory, this view is slightly more searching than that of common usage, and it doubtless would conduce to clearer thinking, and not impossibly to wiser action, if the everyday businessman's bookkeeping took account of these distinctions. As a matter of fact, it is the total sum of "profits" as popularly designated above that functions in keeping the enterprise going, or in stopping it if over a sufficient period of years that sum does not prove large enough to meet the proprietor's living expenses. Large numbers of farmers and other small businessmen doubtless go on for years getting total profits that are less than pay at the going rate for their own labor plus interest at the current rate on the capital they have invested in their enterprise. Thus they have no pure profits, or rather they have a negative profit on the basis of the economist's analysis. Such a man might in fact do better financially by selling out, lending the proceeds at interest, and working for somebody else, but he prefers to "be his own boss." He may gain compensation for a financial sacrifice in certain intangible values that he perhaps would find it hard to define. Whatever the facts as to the real sources of his profits, moreover, he is likely to think of himself as a businessman and of his income as dependent on his activities in that capacity rather than as a worker or an owner of capital.

Corporate Profits

Turning from individual to corporate profits, we find the accounting much more businesslike but the difficulties no less troublesome. The corporate owners, the stockholders, are a group distinct from executives, workers, and all individuals connected with the corporation itself. Therefore its accounting necessarily has an exactness not required in the books of a small concern whose proprietor is at the same time owner, executive, and labor force. In corporate accounting everything that can be legally charged as expense is for certain purposes so entered in the books.[2] All labor, up to that of the highest executives, is paid for by the corporation, and the pay of labor and management, whether wages or salaries, accordingly appears as a part of the expenses, not as profits; whereas, in the individual enterprise, as we have already seen, the proprietor's pay for his labor and management makes up a part, often the chief part, of what he calls profits. In general the net profits carried over from the income account to the corporate balance sheet at the year's end are profits made by the corporation after remunerating everybody in any way connected with the enterprise except the stockholders. If wages of management and payments for superior ability have been included in the salaries of administrative officers, they are definitely accounted costs, and nothing is left for profits but the contingent gains. These, at the will of the directors, it is assumed go to the stockholders, who thus receive, in addition to interest on the capital they put into the business, at least a portion of the pure profits distributed. To regard this as payment for services rendered to production calls for an act of faith. The fact that the shareholder carries the ultimate responsibility before the law is frequently offered as the reason for his receipt of the contingent return, but we have already seen how attenuated that responsibility has become. It is true that he takes a somewhat larger risk of receiving no return on his capital than do other suppliers of funds, and his profit is sometimes explained as payment for this risk; but the validity of this explanation is damaged by the fact that many common stockholders have actually contributed little capital to the business. Nevertheless, whether or not we are

[2]It is to be observed that under certain conditions, as in putting out a new security issue, corporation officials may wish to show large profits, and under others, as in making returns for corporate income tax, to show small ones. Accounting practices may vary accordingly. Nor does such variation necessarily indicate any intent to deceive, though it must be remembered that corporate accounts at best sometimes conceal more truth than they reveal, and sometimes lend themselves to absolute fraud. The best-managed corporations try to make them tell as much as possible, but the student should guard against doing superstitious reverence to balance sheets and income accounts.

able to explain the part he plays in production, we recognize that he does receive a part of the contingent gains. It would, however, be naïve to believe that he received all of these gains. Reality is better served by regarding at least a part of the swollen salaries of executives as a distribution of pure profits. We should not escape difficulty by this course, or thereby make it possible to calculate the amount of the pure profits accurately; for we should still be obliged to decide what part, let us say, of the $704,426 paid to the manager of Loew's is a necessary cost of the industry and what is a distribution of pure profits. When salaries run into six figures and exceed a quarter of a million dollars, it becomes extremely difficult to regard them as essential costs of enterprise. A salary which in 1934 was $6157 and in 1941 had become $30,000, with a bonus of $63,300, suggests not an extraordinary increase in the ability of the recipient but an increase in the profits of the company. Government studies of corporate earnings have recognized at least one aspect of this difficulty. From two to three fourths of the smaller corporations represented in Table XXIII were owned almost entirely by officers of the companies, who received a part of their profits in excessive salaries. The figures of the table represent adjustments which make allowance for this. There is no way of escaping the inconsistencies of existing accounting practices, though by extreme wariness we may keep our thinking straight.

With all these reservations in mind, we turn to some suggestive estimates of profits. Even though they are not in strict accordance with the economist's concept, they help us to realize the importance of this share of the national income as a means of distributing that income among individuals. In the aggregate they come to an enormous amount. On the basis of the studies of the National Bureau of Economic Research, Professor Copeland estimated that total profits in 1925, a prosperous year, amounted to 23.2 billion dollars out of a total national income of 81.8 billions, or just about one fourth of the total. In that year the aggregate profits of corporations (net income after payment of income taxes) was 6.8 billion dollars, of which 4.1 billions were disbursed to stockholders as dividends. The profits of individual enterprises for the year were no less than 16.4 billions.[3] In view of what has already been said, it is plain that the figures of individual and corporate profits are not comparable, the former consisting largely of payment for labor and interest on investments. During the thirties the profits of many companies turned to deficits, and the proportion of profits as a share of national income declined. But this is far from indicating that no industries were showing profits. General Motors, with earnings of $248,000,000 in 1929, had fallen off only about

[3]M. A. Copeland, "The National Income and Its Distribution," in *Recent Economic Changes* (McGraw-Hill Book Company, Inc., 1929), Vol. II, p. 767.

Table XXIII · Adjusted Corporate Net Profits, after Taxes, 1942[4]

ASSETS CLASS (THOUSANDS OF DOLLARS)	ALL INDUSTRIES EXCEPT FINANCE	MANUFACTURING	PUBLIC UTILITIES	WHOLESALE TRADE	RETAIL TRADE	SERVICE	FINANCE	CONSTRUCTION
Under 50	13.5	18.9	8.2	27.0	9.3	19.5	-8.2	26.8
50-99	12.9	17.9	10.0	18.1	9.0	11.6	.5	25.9
100-249	12.7	16.6	9.8	15.7	10.1	8.8	1.6	24.7
250-499	10.9	14.2	10.0	12.3	9.7	9.5	1.7	19.0
500-999	10.6	12.9	8.9	10.9	9.6	8.8	1.8	16.0
1000-4999	10.4	12.1	7.7	10.1	9.5	7.4	3.1	17.1
5000-9999	10.3	12.1	6.4	10.3	8.7	4.6	.6	16.8
10,000-49,999	9.8	11.7	6.9	9.5	8.5	6.1	4.5	14.7
50,000-99,999	8.8	10.8	6.0	6.4	8.0	8.0	6.0	—
100,000 and over	6.9	7.4	6.2	7.9	8.9	9.1	12.8	—
5000 and over	7.9	9.3	6.3	9.3	8.6	7.5	8.5	15.6

$10,000,000 in 1936. Between 1930 and 1937, all depression years, this company paid out $950,000,000 in dividends. By subtracting 960 profit-making companies from the total number of corporations, E. D. Kennedy showed the uneven effects of the depression on profit-making. All other corporations showed deficits of from 1.3 billion to 6 billion dollars in 1930 through 1935. The selected group earned over one billion dollars in every year but 1932.[5] No better illustration than this is needed to support the statement made at the beginning of the chapter that there is no rate of profits. For the first war year, 1942, Table XXIII gives information as to the industries making the largest profits, here calculated as a percentage of owners' equity in the companies. It also makes possible comparison between the returns to small and to large industry, classified by the size of the assets. That the three smallest groups reported the largest per cent of return and that the largest group showed the smallest per cent is doubtless contrary to general opinion. It by no means implies that there were no losses among small firms and no exorbitant profits among large ones. The heaviest losses as well as the highest percentage of gain were found among the small concerns. The Aluminum Company of America in this year earned 17.79 per cent on its common stock; six corporations reported profits after taxes of 100 per cent on invested capital; 204 utilities showed an average return of $9.55 on common stock. Early estimates of profits after taxes, subject undoubtedly to later correction, were as follows: 1941, $8,500,000,000; 1942, $8,700,000,000; 1943, $9,800,000,000; 1944, $9,900,000,000. Those of 1944 were 3 billion dollars higher than the earnings of the year 1929. International Business Machinery in 1943 earned, after taxes, $7.24 a share; Bethlehem Steel, $8.58; Goodyear, $8.94; and the New York Central Railroad, $9.73.

[4] *Survey of Current Business*, January, 1946, p. 15. The per cent is that of the owners' equity.

[5] E. D. Kennedy, *Dividends to Pay* (New York, Reynal & Hitchcock), pp. 16–20.

Dividend payments tended to drop in 1943 and 1944, not because of smaller earnings but because dividend arrears had been reduced by the payments of 1942 and also because corporate management was haunted by the specter of a postwar future without adequate funds for reconversion. By the end of 1944 General Motors had accumulated reserves equivalent to $1.70 a share. In July, 1945, nonfinancial business had over 37 billion dollars in bank deposits and over 30 billion in government securities. These are random figures, open to later correction; but, faulty as they are, they leave no room for doubt that the second World War was an enormous profit-maker for industry in spite of the heavy taxes levied and the many restrictions imposed.

The Sources of Profits

It is commonly pointed out that profits arise in the operation of industry; but the opportunities for profit-making are by no means limited to the process of running a mine or farm or factory or shop during the year and at the end counting up the excess, if any, of receipts over costs. That process does not explain the profits of the house of Morgan in financing the United States Steel combination, nor the profits of dozens of investment bankers in helping forward the development of the power industry during the twenties. It does not explain the profits (not the paper profits but the actual realized profits) of thousands of speculators who made great sums buying and reselling securities in the bull market that crashed in October, 1929. It leaves practically untouched all the gains that arise out of operations primarily financial and only incidentally industrial in either purpose or result. We shall try to explain first ordinary industrial profits, which arise in the operation of industry, and next what for lack of a better word we may call financial profits, made out of operations essentially financial in character. Except at the extremes of the scale, the two cannot be entirely distinguished, yet they are essentially different in their relation to the national income and its distribution.

I. Industrial Profits

How are we to explain the profits of industry, the gains accruing, after the payment of expenses, to the individuals and corporations that run the farms, the mines, the railroads and other transportation agencies, the mills, the factories, the shops and stores, and all the service industries of the country, from the independent shopkeeper on the village street to the National Broadcasting Company and the proprietor of the New York Giants? They fall into two distinct classes: first, the profits of price control, arising under monopoly and

limited competition in industries of administered prices; and secondly, profits arising under unlimited competition in industries of market-created prices. The student should recall in this connection the entire discussion of price in earlier chapters.

A. Profits from Price Control · In industries of the first class the producer measures upward from the base line of his costs; and at whatever point he believes his net profit will be greatest, there he sets his price, adjusting his production to the quantity he is able to sell at that price. The resulting profit, arising from his ability to set price above cost, has long been familiar to the student of economics in his examination of monopolies. He has called it a monopoly profit, and has regarded it as a more or less exceptional thing. During recent years he has been discovering that the same kind of profit, subject only to certain additional limitations, is being realized almost continuously in the far wider field of limited competition. The profits from price control, if we may so name them, are thus a permanent, though of course varying, share of the income derived from the operation of industry.

The actual amount of such profits it is impossible even to approximate, but it is plainly a large total. It is practically all made up of corporate, not individual, profits, since only the corporate form of business makes possible the large units necessary for monopoly or limited competition in any important industries. The profits from price control arise in greater or less amount in railroads, public utilities and power, iron and steel, copper, anthracite coal, petroleum, aluminum, automobiles, electrical equipment, meat-packing, sugar, tobacco, rubber, paper, amusements, and many other lines of industry. No small part of the profits of large corporations has its origin in their power to control prices by controlling production. When demand declines, such concerns cut production to prevent the undue fall of price, thus protecting profits.

While it is impossible to determine the amount of profits from price control, we have some evidence of the apparent importance of that power in times of depression. The first table on page 529 presents certain figures of the net income of all corporations in the United States except life-insurance corporations. It will be noted that the peak profits of 7950 million dollars in 1929 were replaced by staggering losses of 3240 and 4930 millions in 1931 and 1932 respectively. Let us now see which corporations incurred these losses. Table XXV gives the compiled net profit[6] of corporations, less income tax, as reported in the Bureau of Internal Revenue's annual *Statistics of Income* for the three bottom years of the depression.

[6]Not identical with the net income shown in Table XXIV.

Table XXIV · Net Income of Corporations (in Millions of Dollars)[7]

	BEFORE PAYMENT OF INCOME TAX	AFTER PAYMENT OF INCOME TAX
1922–1929 (average)	7240	6190
1929	9130	7950
1931	−2850	−3240
1932	−4600	−4930

Table XXV · Net Income of Corporations[8]

ASSETS CLASS (IN MILLIONS OF DOLLARS)	PROFITS LESS INCOME TAX (IN MILLIONS OF DOLLARS)		
	1931	1932	1933
50 up	1507	200	555
Under 50	−2387	−3993	−1611

The point here is that while the corporations with assets above 50 million dollars (only 600 odd in all) as a group made some money during every one of the three years, those with assets under 50 millions (380,000 to 390,000 in all) lost heavily in every year. A study of the rate of return as related to corporate size (not, be it remembered, to the scale of production) for the years 1931 to 1936 demonstrates that the increase of earning power as size increases is "unmistakable."[9] In none of these years did the group of giant corporations

[7]In examining this table it must be remembered that the totals given combine the figures for all reporting corporations. Thus the 9130 million dollars of profits for 1929 show the total profits of all profit-making corporations, minus the losses of all that incurred losses. The latter paid no income tax. In 1931 the losing corporations lost 2850 million dollars more than the profit-making corporations made. The 390 millions of income tax that the latter group had to pay on their profits reduced profits by that amount and thus raised the combined deficit of all corporations to 3240 million dollars. Figures are from *Bulletin 50* of the National Bureau of Economic Research, on *Recent Corporate Profits in the United States.*

[8]In noting the losses of all except the largest corporations during these years one fact should be remembered. In small corporations the salaries of the officers are deducted as expenses before reckoning profits or losses. If the same undertakings were not in corporate form, such salaries would appear not as expenses but as profits, and as an accounting matter the losses would be by so much reduced. In fact, if such salaries were not deducted as expenses, all groups of corporations with assets below $1,000,000 (not shown separately in the table) would show profits instead of losses in 1931 and 1933. The evidence is not wholly conclusive, but it clearly suggests that the 600 largest corporations were better able than the 380,000 medium-sized and small ones to protect their profits against the shattering forces of the depression.

[9]W. L. Crum, *Corporate Size and Earning Power* (Harvard University Press, 1939), p. 17.

show a group loss; in none did the corporations with assets below $50,000 as a group show a net profit. Neither the table above nor this study indicates that all corporations in the first group made profits and all in the second group lost, but they do suggest clearly the greater comparative ability of those in the largest group to protect their profits under adverse conditions. It is certainly reasonable to suppose that the ability of the giant corporations thus to maintain profits rests at least in part on their ability to control production and prices.

B. Competitive Profits · Over against profits from price control are to be set the purely competitive profits realized by producers in industries of unlimited competition. These constitute the second division of industrial profits. The first doubt to be resolved here is why competitive profits exist at all, save as temporary differences which the action of competition must speedily remove. To those industries which show a profit, new capital will come, and new firms will so expand the product as to bring average cost and price together. How can profits be introduced into such a picture? It is true that competitive profits, as contingent returns, in theory are short-run profits, while monopoly profits may exist for many years. Instantly, apparent exceptions to this come to mind: competitive business enterprises in which year after year lower costs result in higher profits. The usual answer is that lower costs arise from superior efficiency. It gives rise to that element of profits which was said to be akin to rent. The term "efficiency" may be interpreted so as to make the answer correct enough as far as it goes, but in the form just stated it is likely to be both inadequate and misleading. Still centering our attention on agriculture as giving us the clearest example of strictly competitive profits, we find that, as contrasted with the marginal producer, any other farmer may make profits (1) because he is a better farmer in the ordinary sense of that term; (2) because he is a better businessman, which is a somewhat different thing; (3) because he is a more greedy and perhaps a more unscrupulous person; and (4) because he is just lucky. In addition (5) there may be industrial movements and relative price changes among industries that will for a season or two bring profits even to the erstwhile marginal producer and add so much to the gains of the other farmers. These gains are in part wages of management, in part pure profits.

1. Technical Efficiency · The man who may most accurately be said to display superior efficiency is the better farmer of our first grouping. A good farmer has to have a multitude of qualifications and capacities, all connected with the technical job of running the farm, but not, as we are here using the

term "good farmer," connected with the work of buying and selling which is also highly essential to success in farming. That work we include under the farmer's task as businessman. To be a good farmer a man in the first place needs to know an endless variety of things, and he needs to keep on forever learning, especially when the technique of farming is changing as fast as it has done during the twentieth century: he needs to know soils and fertilizers, crops and the various combinations and rotations that may best fit his particular farm, the scores of grains and grasses and all the other products like fruit and vegetables of which he may advantageously grow at least small quantities, the changing breeds of stock and the possibilities of improved breeding on the farm, methods of crop cultivation and stock-handling, the mechanical equipment of his farm to get the best and cheapest production. In fact, there is almost nothing of the physical and biological sciences and their application that the modern American farmer does not need to know, and that he is not a better farmer for knowing. To know to the full the possibilities of a hundred and sixty acres of farm land is to be a wise man. Whether such knowledge is the result of native intelligence, traditional learning, formal education, practical experience, or, as is commonly true, all of these combined, makes no difference. The good farmer must know his job.

To be a good farmer, however, requires much more than knowledge, essential as that is. A good farmer needs physical strength and industry, the capacity for hard work. He needs the skill to manage men, so as to get the best out of his helpers, whether they be hired men or his own family. He needs courage and patience. In fact, he needs all the qualities that go to make up a high-grade human being. To the degree that he has these qualities, to that degree will he be likely to make the expenditure that goes into his farm yield a rich harvest. To that degree, other things being equal, will he reduce his cost of production below the cost of his marginal competitor, who does not possess those qualifications in the same degree. He will make profits, one year with another, as a result of superior efficiency as a farmer. This is not to ignore the fact that in a competitive world the entrance of new competitors may continually drive prices and profits down. Such profits as we have been describing rest upon permanent differences in human beings and have themselves a permanency which is akin to the stability of monopoly profits, though the social effects of the two are very different. One important measure of superior ability is the ability to find new sources of profits as old ones disappear.

The same thing holds good, of course, in every line of competitive business, though the qualifications that are especially important vary from industry to industry. Superior technical or operating efficiency is a basic source of profits. Better planning, organization, and management of a factory and better han-

dling of its working force may reduce costs of operation and thus yield a profit in competition with other plants less efficiently run. The establishment that is first to install better machinery or to adopt improved processes will make a profit as long as the improvement does not become general throughout the industry, thus presumably bringing down both the marginal costs and the price of the products. Throughout competitive business of all kinds we accordingly find some competitors enjoying a temporary differential gain from the greater technical efficiency that enables them to turn out goods more cheaply than the marginal producers. The continuance of such gains depends on their keeping ahead of the poorest possible practice that will pay expenses. If one improvement that they have made is taken up by competitors generally, then they must make another if they want to maintain profits. The accepted theory of competitive profits has commonly assumed that such gains were acquired by making technical improvements in production, which were rapidly adopted by competitors and the gains consequently shifted to the consuming public in the form of lower prices. The only way to continue profits was to continue to make improvements, which in due time would serve the consumer by lowering prices. The theory fails to emphasize those qualities of superiority which are permanent, and will yield to the superior group a continuing profit because of the scarcity of superior ability.

2. Business Efficiency · Our farmer may make profits not only from being a better farmer but from being a better businessman. He may be a better judge of markets, so that he sells at the right time rather than the wrong one. As a result he may over a series of years get appreciably higher prices for what he sells than does his less "efficient" competitor. He may make a shrewder judgment of production conditions and comparative prices six months or six years hence, and consequently may be deciding to grow cucumbers the coming season while his less wide-awake rival still sticks to melons, or may be planting a new apple orchard while his competitor is simply replacing his aging peach trees with a fresh plantation of Elbertas. Again, he may be a harder bargainer, shrewd in personal negotiations, and thus selling at slightly higher prices and buying at slightly lower ones than his more easygoing competitor. He may be a good judge of values, and therefore get good value for his money when he buys and good money for his product when he sells. Thus he may make profits as a result of the possession of business abilities greater than those of his marginal competitor, and not by reason of his being a better farmer in the technical sense.

Business ability in the meaning here suggested is certainly a highly important, and frequently a permanent, source of competitive profits. How important it is by comparison with the ability to organize and run an enterprise

in a technically efficient manner it would perhaps be dangerous to say. Of course both kinds of skill are necessary to the conduct of a successful undertaking. Moreover, in any but the smallest business unit, such as a farm, we are likely to find that men of technical skill associate themselves with others who have essentially business abilities, in order that their enterprise may be as well directed as possible in both respects. Certain it is that the prizes in the business world go largely to the men who in some measure combine both kinds of ability, and in view of the growing importance of selling problems it would be a not unnatural conclusion that in profit-making the relative importance of business abilities as compared with technical efficiency has increased in recent decades. Both contribute to the lowering of costs, on which competitive profits depend.

3–4. Exploitation and Luck · Certain of these business abilities shade off imperceptibly into qualities of ruthlessness and unscrupulousness that not infrequently yield profits, sometimes large ones. The man who takes advantage of the necessity of workers to drive down their pay to $3 and $4 a week, as was done during the depression, may not be an admirable character, but he may turn out cotton dresses cheap and so realize profits. The one who indulges in shady transactions, but is clever enough to keep within the law, may not enjoy the respect of those who know him, but he may make profits all the same. If his operations are carried out on a large enough scale, he may indeed become a Napoleon of finance or a railroad or oil or power magnate with a long purse and a respectable social position, though such magnificent performance is more likely to occur in the search for profits through financial operations, to be discussed later. In undertaking to analyze the efficiency that brings profits in industrial operations, it must not be forgotten that a profit realized by ruthlessness, unscrupulousness, or dishonesty is just as real a profit to the man who gets it as is one gained by making two blades of grass grow where one grew before, or by inducing the world to beat a path to one's door by offering it a better mousetrap. This is also true of profits arising out of plain luck. A farmer happens to have good weather and abundant crops in a year of high prices and consequently makes extraordinary profits. A publisher stumbles on a best seller and makes a quarter of a million in a year. A wildcat oil company strikes a gusher in an unlikely place and makes a fortune overnight.

If the term "efficiency" is to be used as a general explanation of profits in competitive industry, it must be interpreted so broadly as to mean practically nothing but efficiency in making profits, which of course makes it explain nothing. Even at that, it must be supplemented by chance before we can explain why some individuals and companies make profits in the competitive

hurly-burly while others struggle along on the margin of failure. If anyone cares to assert that the best man wins, let him at any rate be perfectly clear in what sense he is using the word "best," and let him also remember how largely success often depends on conditions and accidents over which even the most skillful man can exercise no control. This is not to deny that the man of energy, industry, judgment, intelligence, sound sense, and good training will in general fare better, will produce goods more cheaply and will make more profits, than the one who lacks those qualities. It is to assert, however, that even ordinary competitive industrial profits, whose receipt corresponds most nearly to the possession of such qualities, arise by no means exclusively from these causes, but sometimes from the others pointed out.

5. External Sources of Profits · Further, external conditions may affect the profitableness of an industry as a whole, and even the marginal producers may make profits or the best producers may find their gains largely wiped out. A rapidly rising price level may bring profits to all industries. Jai alai sweeps the country for a season, and the makers of equipment realize small fortunes. A world war breaks out, and for some years American farmers, including many who were losing money before the war, enjoy generous profits. The war over, the relative prices of farm products and manufactures change to the disadvantage of the farmer. Profits throughout a large part of the industry are wiped out or are replaced by actual losses. Of course neither condition can continue indefinitely, but for a number of years, until production has expanded to meet increased demand, profits may remain uncommonly high; on the other hand, for a number of years, until production is cut to fit a lessened demand, profits for a competitive industry as a whole may be almost entirely wiped out, and a large proportion of the producers may be operating at an actual loss.

Summary of Competitive Profits

It is thus true only in the broadest sense that competitive industrial profits are the results of the superior efficiency of others over the marginal producers. Leaving out of account profits that may temporarily accrue even to marginal producers and losses that may be suffered by nearly all competitors under the circumstances suggested in the last paragraph, we may indeed assert that profits in industries of unlimited competition fall to all except marginal producers. They arise, however, from superior ability not only in technical management and operation but in the judging and buying and selling process that we call business as such. They also come from the less pleasing arts of chicanery and

exploitation which the law has not succeeded in closing as sources of gain. Sometimes they occur as a result of plain individual good fortune.

It is worth noting at this point that the profits due to technical efficiency do not arise from the ability to buy labor at lower wages and to get the use of capital goods and money capital at lower rents and interest, but from the ability to use them more skillfully in turning out a product and thus lowering its cost. Such profits plainly are not acquired at cost of others than the profit-maker, but are created, so to speak, by his ability. This is by no means equally clear with reference to all the profits due to business efficiency. The good bargainer gains at the expense of the poor one. If in consequence, however, business passes into the hands of those who have better rather than worse judgment, then production may be carried on at lower cost than it otherwise would be, and ultimately the consumer may be the gainer by lower prices. The profits of our third category, chicanery and exploitation, are evidently just taken away from others. They may be a refined and legally acceptable form of theft.

II. Financial Profits

We turn next to what we called financial profits, those that do not arise out of the regular operation of industry, but that come from speculation, promotion, and financial transactions in general, as opposed to industrial activity. Of course the two fields are by no means distinct, and legitimate financial activities have important industrial consequences. When a banking house by its flotation of a bond issue for a power company enables the latter to build a new powerhouse and thus double its output of electricity, finance has joined with industry to increase the social product. Nonetheless, the profits of operations essentially financial arise so differently from industrial profits, and the results of such profit-making are in some ways so distinct, as to warrant separate treatment.

1. Speculation · We touch first on the profits of speculation. In Chapter Seventeen we examined at some length the possible services of speculation in the facilitation of industry and the production of income. Here we are concerned wholly with the income of speculators and the way in which their income affects the distribution of goods. To whatever extent they make net profits, to that extent it is possible for them to share in the actual output of goods. The same thing is true, needless to say, of the receivers of profits from all financial operations.

Price fluctuation and major price changes, notably increases, stimulate

speculation; price stability discourages it. In a period of rapidly rising security prices speculators, professional and amateur alike, rush into the market to take advantage of the rise. They buy securities, resell, and buy again, making profits on the way up, using some of them to buy all sorts of things that they want, but generally putting some of their gains back into securities for a further rise. If the boom culminates in a smash, as it did in 1929, those who bought at the top of the market are in for severe losses, which may go so far as to wipe out their entire capital, particularly if they have been trading on margin, as most speculators do. But insofar as they actually realized cash profits on the way up and used those profits to buy goods that they really wanted to consume, and not to buy more securities in the hope of making more money, their speculations enabled them to get more of the product of industry than they could otherwise have done.

So-called paper profits (and losses) do not directly affect distribution at all. The man who bought securities for $20,000 in May, 1929, and found them worth $30,000 in October may have congratulated himself on having a profit of $10,000, but unless he cashed in on it by selling part or all of his securities, plainly he had no real profit. If he held his securities untouched till November, when they were worth perhaps only $15,000, he was faced with a loss of $5000, a loss as illusory as his profits. Unless he chose, or found himself obliged, to sell out at the low price, he actually lost nothing. Since speculators do in fact generally realize at least part of their profits in cash, that part enables them to share in the year's product just as truly as the profits of operation enable a manufacturer to do so or as wages enable a laborer to get the goods that he enjoys. The student should be on guard, however, against thinking of a mere appreciation in the selling value of capital assets as profits. If they are not realized by actual sale, they are not profits in the sense significant for the study of distribution.

There is no way of estimating even approximately the total amount of realized speculative profits. It goes up and down with the fluctuations of speculative activity. No one acquainted with conditions of living and habits of consumption among the more prosperous groups of Americans during the later twenties would deny that such profits sometimes play a not insignificant part in the distributive process. Even if the successful speculator makes his profits at the expense of the unsuccessful one, insofar as those profits are actually realized the distribution of goods is affected thereby. Moreover, unless speculation increases production, any net profits received by speculators as a group must lessen by so much what is left for the rest of the community. If speculation does in fact stabilize prices and increase production, such a result does not necessarily follow.

2. Promotion · The spectacular profits of promotion and other large-scale financial operations likewise call for attention. They differ from industrial profits in arising out of a single transaction effected once for all, instead of being the result of operation over a period of time. By promotion is meant the bringing together of the men and the money necessary to set up a going concern. The promotion may be accomplished by an individual who acts as a professional promoter or by an investment banking house. The promoter may set up a new company, to produce a new product, or may consolidate established companies by means of mergers or holding companies. The formation of the United States Steel Corporation in the spring of 1901 gives an excellent example of the making and the significance of such profits. It was a time of great speculative activity, accompanied by wild ideas of the profitableness of industrial combinations. In the years immediately preceding, combination had been going on rapidly among the iron-and-steel-producing concerns of the country. Foremost was the Carnegie Company; second, a group controlled by J. P. Morgan and Company of which the Federal Steel Company was the strongest unit; and third, the so-called Moore companies. The Carnegie Company, industrially solid and conservatively financed, occupied an impregnable competitive position. The Morgan group, already fairly loaded with water, was in a more vulnerable position. The Moore companies, even more heavily overcapitalized, were in no position to face the active competitive war which was threatened by the Carnegie concern. J. P. Morgan and Company played the leading role in effecting a combination that brought together these three and other important steel interests into the United States Steel Corporation. On the one side, the transaction meant the formation of an industrial combination whose operation after a few years became highly profitable to the shareholders; on the other, it meant a vast financial undertaking out of which the organizers hoped to make profits quickly. It is the latter phase of the undertaking that we here examine.

The new concern was capitalized at $1,321,752,500, divided as follows:[10]

Bonds	$303,450,000
Preferred stock	510,000,000
Common stock	508,302,500

To put the story as briefly as possible: The bonds went to Andrew Carnegie and his associates in payment for the Carnegie Company. Of the preferred stock $98,000,000 went to Carnegie and $347,000,000 to the owners of the other companies. The $748,450,000 now accounted for probably paid in full for the companies taken into the combination, even at a generous valuation.

[10]John T. Flynn, *Security Speculation*, pp. 109, 141–143.

The remaining preferred stock, about $65,000,000, went to the syndicate headed by J. P. Morgan in return for its promotion services and an expenditure amounting to perhaps $28,000,000. This distribution of bonds and preferred stock paid for the constituent companies and left some $37,000,000 for the banking syndicate. Of the common stock $90,000,000 went to Carnegie, about $65,000,000 went to the promoters, and the remainder was distributed among the other companies. Thus far nobody had any actual cash profits. Carnegie held gilt-edged bonds, a fifth of the preferred stock, and somewhat less than a fifth of the common stock. The banking syndicate had more than $125,000,000 in preferred and common stock; the owners of the other companies (comprising many of the men to be found in the banking syndicate) owned the remainder of the stock.

This situation was not to last long. The stock was immediately listed on the New York Stock Exchange, and the process of distribution to the public began by the organizers judiciously selling their holdings. Steel common started off around 42, sold up to 55 during the first year, fell to little more than 8 at the low point in 1904, and rose to nearly 95 in 1909. The organizers of the company gradually sold out in whole or in part, at what times and prices it is impossible to say. When in 1910 the stock list was opened to inspection, J. P. Morgan and Company, heading the syndicate which, it will be remembered, originally had above $125,000,000 of stock, had only $18,000,000 in common and $3,700,000 in preferred. The profits of the syndicate were estimated by the Commissioner of Corporations at about $62,500,000, the excess realized on their sales of stock above the $28,000,000 that they put up at the organization of the corporation. Henry C. Frick, who had been the largest holder of common stock, had in 1910 retained the princely amount of $100 worth. Charles M. Schwab, one of the central figures in the process of combining, and first president of the United States Steel Corporation, had almost none of the stock left. The meaning of this distribution in terms of actual realized profits to those who effected the combination and who in doing so issued to themselves shares more than a half billion in excess of the outside valuation of the companies combined, is readily apparent, though the actual amount of the profits is unknown. To quote the unsympathetic summary of John T. Flynn, "It is not too much to say that these organizers collected for this stock in excess of 250 million dollars, all of which went into their pockets and no part of it into the steel industry." In any event the sum was an enormous one, and Mr. Flynn's estimate is by no means unreasonable.

This profit, probably unique in its amount, is nevertheless typical of thousands of similar though less spectacular profits constantly being made in flush times by like undertakings. Its origin and the result of its distribution both

deserve attention. Unlike an industrial profit, it did not arise directly out of current industrial operations, representing an excess of receipts over costs. Instead it came out of a series of large-scale buying and selling of securities. These sales were based, indeed, indirectly on industrial properties and on more or less vague guesses or beliefs about future possible profits from running those properties under somewhat changed conditions. Chiefly and directly they were derived from the temper and hopes of people in the securities markets—in a word, from the exigencies of speculation. Broadly, on the one side in such a transaction is a group of financial operators with securities to sell; on the other is the public that must be induced to buy if the operation is to succeed. The first group has all the information that exists about the industrial realities underlying the deal, and knows the technique of selling, with its stock-market accompaniments. The second group knows little except what it is told about the securities it is asked to buy, and rather less about the market technique. The public acquires equities, often much diluted, in going enterprises, which equities will entitle them to share to some extent in the possible profits derived from future operation. The financiers may and often do retain control of the actual running of the industrial enterprises and some share of the profits of operation. Such return is like that of other stockholders and is not under consideration here. Their profits as promoters are very different. The explanation offered for these profits is that the promoter has assumed a risk and rendered a service by helping to create a more efficient organization of industry. Few apologists would go so far as to maintain that the service rendered was in any way commensurate with the size of the reward in many modern promotions.

If the student has followed the discussion to this point he will realize that he is now involved in difficulty. Distribution has been presented as a division of goods among the agents contributing to production. The principle of marginal productivity has aided in our analysis of the division of the flow of goods among the factors of production. Insofar as receivers of profits by their services contribute to the flow of income, the same analysis can be applied to profits. As the price of efficient management and the bearing of risk, profits create no difficulties. But if the implication contained in the preceding pages is sound, there are profit-takers among the speculators, the promoters, and other financial manipulators who, rendering no productive service, nevertheless receive and exercise a claim on the flow of goods. It would seem that our financial arrangements are such that they make possible claims against goods balanced by increases in the value of that stream only by a distortion of the idea of value.

In conclusion we need to indicate more definitely the relation of the money claims represented by corporate profits to the distribution of goods. Insofar

as they are distributed as dividends they immediately become individual income. In so far they produce the same effect as any other individual income and call for no comment here. So far as they are reinvested in the business and appear in the corporate surplus, they produce a distinctive result. They are laid out chiefly for producers' goods, which become the property of the corporation itself and neither at the time nor afterward of the stockholder individually. The stockholder shares the profit immediately only if he sells his holding at a higher price because of the added investment. He may share indirectly later, if he holds his stock, by receiving increased dividends because of increased production made possible by the investment. During the prosperous years from 1922 to 1929 roughly two thirds of corporate profits were paid over to stockholders in dividends and the remaining one third was plowed back into the business. During the depression years the corporations, which, as we have seen, as a group lost money during that period, managed, by drawing on assets represented by surplus, to maintain extensive dividend payments. Such corporate action helped to keep up the individual income of stockholders and their ability to share in the decreased amounts of goods turned out by industry under depression conditions.

The distribution of money profits to individuals, whether the profits of their own undertakings or the dividends of corporations in which they hold stock, affects the distribution of goods differently in the case of small and large income-receivers. The former promptly lay out the most of what they receive on the goods by which they live, and their money income therefore affects chiefly the distribution of consumers' goods. Their small savings commonly go into the hands of the savings banks or insurance companies. By their agency such savings are generally placed at the disposal of corporations and other enterprises, enabling them to get possession of producers' goods. In some cases they are put at the command of consumers who want to get the use of currently produced durable goods, like houses, for which they are not able to pay in full.

If profits go to large income-receivers, however, they may be chiefly saved instead of being used for the purchase of consumers' goods. They will be employed for the most part to help to distribute the current output of producers' goods among the business firms that borrow these savings in order to buy equipment for production. The profits received by the rich accordingly go in much larger degree than those received by the poor to the purchase of producers' goods, and also, in good times, to the driving up of prices of securities.

That large part of the profits of individual business enterprise which goes to small businessmen of moderate means, and that part of corporate income that

is distributed in dividends to small income-receivers, are probably not saved but serve chiefly to aid in the distribution of consumers' goods. A surprising proportion of dividend payments, however, goes to large income-receivers, as is evident from Table XXXIII and the comment which follows it.

The profits of financial operations undoubtedly go in large proportion to wealthy men and are chiefly saved. They accordingly influence the distribution of producers' rather than consumers' goods. The transactions out of which they arise, indeed, often bring about the transfer of capital assets and industrial control from one set of persons to another rather than any material change in the distribution of the current product of industry. It is not impossible that from the standpoint of the current and even the more distant distribution of consumers' goods we get unduly excited about the immediate profits of a Van Sweringen, creating a railroad empire out of a vacant lot in Cleveland, or an Insull, gathering the power resources of a nation into his own hands. Certainly financial profits, derived as largely as they are from the shifting about of ownership claims to existing property, are less important in their effect on the distribution of the current income stream than in their influence on the control of income-producing machinery and to some extent on the division of the income to be produced in the future.

CHAPTER TWENTY-NINE

Personal Distribution

THE chapters immediately preceding have been concerned with the allocation of the national income among the agents which enter into the production of that income, and the process whereby those agents are priced and are allotted to their varying uses. The concept of the national income itself as the aggregate of what is produced and distributed was first discussed in Chapter Two; it was more fully developed in Chapter Twenty-four. Further elaboration of the meaning of the term is unnecessary. The actual amount of the income (either in goods or in money terms), its distribution among individuals or consuming units, the degree of its concentration, and its changes in amount or in concentration from year to year have received scant attention. To such topics we turn in this chapter.

During the past twenty-five years, owing largely to the activities of the National Bureau of Economic Research and the United States Department of Commerce, a great advance has been made in our knowledge of the amount of the money income of the United States and its actual distribution. As a result of the fruitful co-operation of these two agencies (one public, one private) we have at the present time fuller information than any other country in the world on this important matter. Nevertheless, our knowledge still is, in the nature of the subject, partial and inadequate; and it must be realized that the figures of this chapter, while drawn from the best sources available, are in considerable part the result of estimate only, albeit expert estimate based on an enormous amount of work. They unavoidably give an impression of spurious exactness. At most we can hope that they correspond roughly with the facts that we try to picture by their means.

The National Income as a Whole

Table XXVI sets forth the national income through the years of the depression and the second World War. The third column of the table translates the yearly money income into figures representing the value of each year's product of material goods and services at 1939 prices. Columns four and five are obtained by dividing the year's income by the population of the year. Though

columns three and five are expressed in money terms, they are, in effect, comparisons of varying quantities of goods.

Table XXVI · National Income of the United States, 1929–1944[1]

	TOTAL INCOME		PER CAPITA INCOME	
	In Current Dollars	In 1939 Dollars	In Current Dollars	In 1939 Dollars
	(Billions)			
1929	$83.3	$67.2	$684	$552
1930	68.9	56.9	560	462
1931	54.5	50.5	439	470
1932	40.0	40.8	320	327
1933	42.3	45.0	337	358
1934	49.5	50.0	392	396
1935	55.7	55.1	438	433
1936	64.9	64.3	507	502
1937	71.5	68.1	555	529
1938	64.2	62.9	495	484
1939	70.8	70.8	541	541
1940	77.6	76.8	588	582
1941	96.9	90.6	727	680
1942	122.2	—	907	—
1943	149.4	—	1095	—
1944	160.7	—	1164	—

Even the most casual inspection of these figures indicates the swift downward plunge of the national income at the beginning of the depression and its rapid growth during the war. Had the figures been carried back to the first World War, we should have found that we emerged from that conflict with a national income of 63.9 billion dollars, which, after a sharp drop in 1921, gradually rose to the 83 billion of 1929. The per capita figures for the entire period, reduced to a common base, are even more illuminating. The 1914 income of $557 fell in 1920 to $495, and then, during the twenties, climbed slowly upward to $674 in 1929. Yet in the golden age represented by that year, per capita income was but $189 larger, measured in goods, than it had been at the beginning of the century.

Not till 1941 was the national income of 1929 again achieved; by 1944 it was almost doubled. While a portion of this change was brought about by a rising price level, there was also between 1940 and 1944 a great increase in the volume of goods produced.

Distribution among Individuals and Families

We have already studied the distribution of this national income as distributive shares going to the factors of production. We here turn to its distribution among the families and individuals in the United States, no matter what their function in production is.

[1]*Economic Almanac*, 1945–1946, p. 71.

Two recent studies of the distribution of money income among individuals and families are in themselves illuminating and also make possible some useful comparisons. The Brookings Institution in 1934 published an examination of the income of American people in the peak year 1929[2]; the National Resources Committee in 1938 published a study for the year July 1, 1935, to June 30, 1936, a year of slowly reviving business.[3] For 1929 the total income is figured at about 93 billion dollars, including, in addition to the income produced (which was earlier discussed), profits from sales of securities, residential rent, nonbusiness interest, and imputed income from owned nonfarm homes and other durable consumption goods.[4] On the basis of the census of 1930 it is estimated that at the end of 1929 there were 27,474,000 families of two or more persons, averaging just above four per family, together with 8,988,000 unattached individuals. The families had an aggregate income of about 77 billion dollars, an average of $2800 per family. The median family income was about $1700, and the modal (most frequent) income about $1300. The individuals received a total of some 15,834 million dollars, an average of about $1760. Many of the families contained more than one income-receiver; indeed, they embraced no fewer than 12.6 millions of such supplementary recipients, so that in total about 49 million separate incomes are accounted for.

In 1935–1936 the total income as estimated by the Department of Commerce was $59,983,000,000; the number of families reckoned was 29,400,300; the number of unattached individuals, 10,058,000. An eloquent commentary on the changes worked in the intervening five years is to be found in the attention given in the later study to the division between relief and nonrelief families, a division not to be found in the work of the Brookings Institution.

Table XXVII puts clearly the inequalities disclosed by the later study. The median income in 1935–1936 was $1160; the modal was between $750 and $1000; the average was $1621. The full import of the figures does not emerge from these averages, however, but from a look at the extremes. The 40 per cent of the families in the United States lowest in the income groups were receiving incomes below $970 and, taken all together, received but 15 per cent of the total family income; the highest 20 per cent received 51 per cent of that income. In between, the second 40 per cent, those in the income range between $970 and $2050, received 35 per cent of the total. If the aggregate family income is divided into tenths, we find that at the lowest level of incomes

[2] *America's Capacity to Consume.*

[3] *Consumer Incomes in the United States.* Government Printing Office, 1938.

[4] It is scarcely necessary to point out that this exaggerates the value of the real income of 1929, especially in the narrower sense in which it was defined in Chapter Twenty-four.

one tenth of the total goes to 32 per cent of the families; while the highest tenth, including incomes of $16,000 and over, goes to .5 per cent of the families.

Table XXVII · Distribution of Families by Income Level[5]

	FAMILIES			INCOME	
Income Level	Number	Percentage at Each Level	Cumulative Percentage	Percentage at Each Level	Cumulative Percentage
Under $250	1,162,890	3.95	3.95	0.28	0.28
$250–$500	3,015,394	10.26	14.21	2.45	2.73
$500–$750	3,799,215	12.92	27.13	5.00	7.73
$750–$1000	4,277,048	14.55	41.68	7.84	15.57
$1000–$1250	3,882,444	13.20	54.88	9.12	24.69
$1250–$1500	2,865,472	9.75	64.63	8.20	32.89
$1500–$1750	2,343,358	7.97	72.60	7.92	40.81
$1750–$2000	1,897,037	6.45	79.05	7.27	48.08
$2000–$2250	1,420,883	4.83	83.88	6.30	54.38
$2250–$2500	1,043,977	3.55	87.43	5.18	59.56
$2500–$3000	1,314,199	4.47	91.90	7.48	67.04
$3000–$3500	743,559	2.53	94.43	5.00	72.04
$3500–$4000	438,428	1.49	95.92	3.41	75.45
$4000–$4500	249,948	.85	96.77	2.20	77.65
$4500–$5000	152,647	.52	97.29	1.51	79.16
$5000–$7500	322,950	1.10	98.39	3.99	83.15
$7500–$10,000	187,060	.64	99.03	3.37	86.52
$10,000–$15,000	131,821	.45	99.48	3.14	89.66
$15,000–$20,000	58,487	.20	99.68	2.13	91.79
$20,000–$25,000	34,208	.12	99.80	1.60	93.39
$25,000–$30,000	22,233	.08	99.88	1.32	94.71
$30,000–$40,000	15,561	.05	99.93	1.18	95.89
$40,000–$50,000	6,603	.02	99.95	.66	96.55
$50,000–$100,000	10,571	.04	99.99	1.58	98.13
$100,000–$250,000	3,336	.01	100.00	.92	99.05
$250,000–$500,000	699*			.42	99.47
$500,000–$1,000,000	197*			.23	99.70
$1,000,000 and over	75*			.30	100.00

*Less than 0.005 per cent.

Table XXVIII · Percentage Distribution of Aggregate Income, 1935–1936, 1941, and 1942[6]

NET-MONEY-INCOME CLASS	ALL FAMILIES		
	1935–1936	1941	1942
$0–$500	25	16	16
$500–$1000	28	19	16
$1000–$1500	20	16	15
$1500–$2000	11	14	14
$2000–$3000	10	20	20
$3000–$5000	4	10	13
$5000 and over	2	5	6
	100	100	100

[5]*Consumer Incomes in the United States*, p. 18. Similar figures for 1929, though not entirely comparable, will be found in *America's Capacity to Consume*, p. 54.

[6]Bureau of Labor Statistics, *Bulletin No. 723*, p. 2. The figures for 1942 are estimates based on the first quarter of the year. This compilation does not separate family units and single individuals, and therefore is not absolutely comparable with Table XXVII.

No such comprehensive study as that of 1935–1936 has been made for the family distribution of income during the war, but Table XXVIII indicates some of the early changes. In 1935 slightly more than half the consuming units in the United States received incomes of $1000 or less; in 1942 this group was about one third of the total. In the earlier year the largest number of families received between $500 and $1000; by 1941 the group receiving from $2000 to $3000 was the largest. The percentage which received over $5000 was in 1942 three times as large as in 1935, but at that it constituted only 6 per cent of the total number. This 6 per cent received 38 per cent of the income of the year.

Concentration of Income

One of the significant questions to be asked of figures of income distribution is whether the concentration of income in this country is increasing. To answer this adequately we need figures for a longer period than is covered by the material of the two studies just cited. From the income-tax returns, beginning with the year 1918, there was compiled for the Temporary National Economic Committee a statement of the percentages of the income which had been received by the 1 per cent of recipients receiving the highest incomes. This provides one means of comparing changes in concentration.

Table XXIX · Per Cent of Income Received by the Highest 1 Per Cent of Recipients[7]

YEAR	PER CENT OF TOTAL INCOME RECEIVED BY HIGHEST 1% OF INCOME RECIPIENTS	INDEX (1918=100)	MINIMUM INCOMES OF HIGHEST 1%
1918	12.79	100.00	$6385
1919	13.35	104.38	7310
1920	12.42	97.11	8010
1921	13.57	106.10	6845
1922	14.24	111.34	7445
1923	12.95	101.25	7505
1924	14.17	110.79	8040
1925	16.39	128.15	9380
1926	16.21	126.74	9655
1927	17.18	134.32	9590
1928	19.26	150.59	10,140
1929	18.47	144.41	9975
1930	14.63	114.39	8080
1931	13.72	107.27	6595
1932	—	—	—
1933	—	—	—
1934	13.03	101.88	5375
1935	13.41	104.85	5800
1936	14.53	113.60	6880
1937	13.29	103.91	6940

[7] *Concentration and Composition of Individual Incomes, 1918–1937*, Temporary National Economic Committee Monograph No. 4, p. 16. For complete explanation of the method of calculating the table, see ibid. pp. 14–17, 71–79.

For 1932 and 1933 the figures are omitted because of changes in the income-tax law which so changed the definition of income as to make it impossible to compare the returns with those of earlier years. For a similar reason those for 1934–1937 are not precisely comparable with the earlier series. It is highly probable that all these figures consistently underestimate both the percentage of income received by this group and the minimum incomes in the group: for 1918 the National Bureau of Economic Research assigned 13.7 per cent of the income to the highest 1 per cent; Table XXIX gives 12.79 per cent. For 1929 the Brookings estimate was 24 per cent, as compared with 18.47 per cent here. The lowest income in the group in 1929 was estimated by the Brookings study to be $12,850; here it is $9975. That for 1935–1936, calculated by the National Resources Committee, was $9100; here the minimum for 1935 is $5800 and for 1936, $6880. Understatement, however, does not destroy the comparative value of the figures as a measure of concentration of income. Clearly the entire period shows no trend toward increasing or decreasing concentration. Between 1924 and 1928 the percentage of income received by the top 1 per cent of receivers was increasing; after 1929, with the exception of 1937, it decreased sharply. The proportion of 1937 was not far from that of 1918. The conclusion seems to be that in periods of business expansion, when the national income is increasing, concentration of income is also increasing, though this does not hold strictly true.

Relation of Money and Real Income

We are next interested in the meaning it is possible to put into these figures of money income, if we assume, as we must, that they give us a more or less correct representation of how such income is distributed among us. The question resolves itself into two parts: (1) What consumers' goods, both perishable and durable, could and did people get with their money income? (2) What part of their income was saved, and what claims on future income were set up in consequence? The second question of course assumes that money savings are used to finance, directly or indirectly, the acquisition of producers' goods, as set forth in Chapter Twenty-four, though we have learned that this is not always the fact.

To answer the first question, it would be necessary to anticipate the study of consumption, to be taken up in the next chapter. What do people in fact spend their money for? Are small incomes used to buy different things from those bought by large ones? These are legitimate subjects of inquiry in any study of distribution and cannot be ignored. Everyday observation suggests answers which need to be fortified by a wider acquaintance with the facts;

but this acquaintance is postponed to Chapter Thirty while we turn to the question of saving raised above. The student should realize that this postponement is a practical, not a logical, division of his material. Understanding of the distribution of real income involves knowledge of what proportion of the whole is spent for consumers' goods and what is saved and, presumably, spent for producers' goods. It also involves knowledge of what goods can be and are bought at various income levels, to be considered under consumption.

In Table XXX, drawn from the Brookings study of 1929, the percentages of the total income spent and saved are shown for various income levels. This

Table XXX · Expenditures and Savings, 1929[8]

INCOME GROUPS	PERCENTAGES OF INCOME	
	Expenditures	Savings
Wealthy, $25,000 up	48	52
Well-to-do, $10,000–$25,000	64	36
Comfortable, $5000–$10,000	79	21
Moderate circumstances, $3000–$5000	85	15
Minimum comfort, $1500–$3000	91	9
Subsistence and poverty, under $1500	122	-22

is accompanied by similar material for 1935–1936 from the report of the National Resources Committee, and by a comparison of money expenditures, taxes, and savings for 1941 and 1942 prepared by the Bureau of Labor Statistics (See Table XXXI).

The three studies, one for a prosperous period, one for a period of depression, one for a time when preparations for war and war itself had brought increased activity, agree on one significant point: a considerable portion of our population is unable to save. More than that, for part of the community its

Table XXXI · Average Yearly Expenditure, Savings, and Taxes per Family, 1935–1936, 1941, 1942[9]

	MONEY EXPENDITURE FOR FAMILY LIVING			NET SAVING OR DEFICIT			TAXES, GIFTS, CONTRIBUTIONS		
	1935–1936	1941	1942	1935–1936	1941	1942	1935–1936	1941	1942
$0–$500	$394	$370	$424	–$115	–$87	–$172	$10	$17	$16
$500–$1000	747	738	784	–37	–20	–64	31	29	24
$1000–$1500	1154	1155	1160	32	55	52	54	48	44
$1500–$2000	1542	1576	1524	112	116	180	78	71	72
$2000–$3000	2038	2214	2012	289	166	336	121	112	128
$3000–$5000	2778	3086	2880	724	489	644	228	190	232
$5000 and over	5888	6758	6116	4420	3724	7936	1244	1228	1480
Median	$914	$1361	$1380	–$9	$87	$128	$40	$60	$60

[8] *America's Capacity to Consume*, pp. 87–90, 262.

[9] Bureau of Labor Statistics, *Bulletin No. 723*, p. 7. All 1942 figures are estimates based on the first quarter. Savings include all payments on past debts; so they do not always represent accumulated spending power, as is frequently assumed. *Bulletin No. 822*, pp. 195, 197, gives a different set of figures for 1941.

current revenues do not meet its current expenditures. The figures for 1929 indicate that the two fifths of our population classified as poor (under $1500) not only made no savings but actually ran behind by 22 per cent of their incomes. By contrast the rich ($25,000 and over) saved more than half their whole income. In all the tables the constant and rapid progression in the proportion of income saved as we move from the poorest up to the richest income group is noteworthy. The study for 1935–1936 shows no savings in the incomes below $1000, a fact not difficult to understand. In the income range from $3000 to $5000, savings reached slightly more than 22 per cent of the income, while those families with incomes of $15,000 or more (not here indicated) saved nearly two thirds of their incomes. To put the situation in another way, the top tenth of the population, composed of those with incomes of $2600 or more, had savings which represented 105 per cent of the net savings figure for all incomes combined,[10] those with incomes of more than $5000 a year (2.4 per cent of the consumer units) saved in 1938–1939 over one and one-fourth billion dollars more than the 97.5 per cent of the consumer units with incomes less than $5000. The figures for 1941 and 1942 also indicate that saving begins with those receiving from $1000 to $1500. On less, families fail to make both ends meet, whereas the recipients of incomes exceeding $5000

Table XXXII · Consumer Income, Expenditures, and Savings[11]
(Billions of Dollars)

YEAR	INCOME PAYMENTS	DISPOSABLE INCOME	EXPENDITURES	SAVINGS
1939	70.8	67.7	61.7	6.0
1940	76.2	72.9	65.7	7.3
1941	92.7	88.7	74.6	14.2
1942	117.3	110.6	82.0	28.6
1943	143.1	124.6	91.3	33.3
1944	156.8	137.4	98.5	38.9
1945	160.1	138.9	103.6	35.3

employ less than half their incomes for current expenditures.[12] Among the many significant comparisons made possible by the figures of Table XXXII is that between the increase of disposable income and the increase of savings. The former more than doubled between 1939 and 1945; the latter were nearly six times as great at the end of the period as at the beginning. While war conditions and war controls undoubtedly contributed to the rapid increase

[10]The committee presented all figures for expenditures and savings for those with incomes of more than $20,000 with great caution. They are not presented here.

[11]*Survey of Current Business*, January, 1946, p. 4.

[12]*Family Spending and Saving in War Time, Bulletin No. 822*, p. 195, presents the results of a study in which the annual deficit was not replaced by savings until the income was between $1500 and $2000.

of savings as income increased, nevertheless the figures clearly illustrate the fact that as income increases consumption does not increase as rapidly.

If for a moment we turn from individual incomes and individual savings to see how widely distributed are corporate savings, we discover that 6½ per cent of the corporate units do 80 per cent of the corporate saving.[13] In our society the greater the inequality of distribution the greater the proportion of the national income that will be saved instead of being spent for consumers' goods and services. The investment of these savings, in turn, means an increasing amount of future money income pledged to the savers. The larger their present income the larger their proportionate sharing in the income of the future. The figures again confirm everyday knowledge. The larger the family or individual income the greater are the savings, with their promise of future money income to the savers.

Before we leave this aspect of our subject, one reminder is necessary. It is well known but often forgotten that the goods enjoyed as a result of the money incomes we receive and spend are far from constituting the total income of any one of us. As has been frequently emphasized in this volume, the largest and the smallest incomes alike are augmented by services supplied by government or group expenditure of many kinds. Any comprehensive treatment of income enjoyed must include an examination of all such additions to individual incomes.

Causes of Inequality

We turn next to a brief inquiry into the causes of the startling inequalities that we have discovered. In our chapters on profits and wages we touched on some of the causes of inequality, so far as differences in income depend on differences in the personal characteristics of those who carry on our present economic activity. Great inequalities, however, find their origin in the operation of our existing property system and in the widely differing opportunities that its operation opens to different individuals and classes of society. Such differing opportunities begin with the opportunity to be wellborn and extend all through life, with its utterly various possibilities of education and training, of advantageous social and business contacts and openings, and of enjoyment of property income, in many cases entirely divorced not only from business or other productive work but from useful activity of any kind whatever. The extraordinary man in our society, as in every other, is commonly able to rise

[13] *Who Pays the Taxes?* Temporary National Economic Committee Monograph No. 3, pp. 6–7; Final Statement of Senator Joseph C. O'Mahoney, Temporary National Economic Committee. March 11, 1941, p. 9.

above the lack of such opportunities, but for most others it is chiefly opportunity that determines income.

The two thirds or more of the national income that is paid out as compensation to labor is distributed roughly on the basis of the judgment of business executives as to what the services of the various wage and salary recipients are worth to them and what they must pay to get them. In so far its distribution may be said to be related to the services and capacities of those who get it. It is not among the wage-receiving group that we find the great inequalities which call for explanation. Differences of native ability, both mental and physical, and of educational and economic opportunity explain the comparatively small inequalities of income here. Our swollen incomes find their explanation in part in the occasions for profit discussed in Chapter Twenty-eight and in part in the great differences in ownership of property claims, many of which, under our inheritance laws, are cumulative for generations.

Great fortunes, which bring great incomes, have had their origin in the United States very frequently in the cleverness, shrewdness, and luck of men who gained control of rich natural resources which in due time yielded high rents to them and their heirs. Other men have seen and seized strategic opportunities in manufactures, commerce, and transportation, sometimes containing monopoly elements. They have transformed rich profits into income-producing equipment and have built up income-producing organizations that continued to yield large returns to their heirs and successors long after they themselves had passed from the scene. Financial operations have been a scarcely less important source of great profits and consequent fortunes. In these various fields the names of Astor and Vanderbilt, Rockefeller, Guggenheim, Carnegie, Mellon, Baker, Morgan, and dozens of others only less well known at once come to mind. They suggest the processes whereby the control of property in large amounts, and consequently of industrial opportunity on a large scale, has passed into the hands of dominant men. They have been men specially endowed with the characteristics that make for success in business activity under the conditions prevailing here since the signing of the Declaration of Independence.

We have suggested something of the manner in which our property institutions and the existing distribution of property serve to bring about the existing inequalities of distribution. They do more; they serve to perpetuate such inequalities, notably by the operation of inheritance and bequest. The old American saying "Three generations from shirt sleeves to shirt sleeves" expressed the cheerful conviction of a happy-go-lucky society. It was never more than half true; some of the great American fortunes today are in the hands of the third and the fourth generation and are passing on to new gen-

erations. The growing effectiveness of investment institutions doing a trust business has made it less and less necessary for a rich man to rely on the continuation of business shrewdness in his own descendants to insure them large incomes. Going to the extreme limit allowed by American law, the late William Rockefeller at his death in 1922 left an estate trust of 50 million dollars to be divided among his great-grandchildren when their respective parents shall die. According to an accounting made public in the summer of 1937, the four children and fourteen grandchildren had received during the fifteen years, in accordance with the provisions of the trust, 9.5 millions of net interest, while the principal of the trust had risen by one fourth to a figure of 63.7 million dollars—and all this after an economic depression unparalleled for severity and long continuance.

At this point we need to revert to the figures of Table XXVII and to study them in connection with Table XXXIII, from which the sources of incomes in different levels and the changes in those sources with business fluctuations may be read. The rapid decline in the percentage received from personal effort as the size of the income increases and the large proportion of the high incomes that in 1926 came from realized capital gains,[14] and in 1932 from dividends, are the striking facts to be drawn from Table XXXIII. Rents, interests, and dividends—that is, income primarily from property—are responsible for our largest incomes, sometimes, though by no means always, conjoined with large salaries, bonuses, and profits. The implications of this table are reinforced by the further fact that one half the corporate dividends of the country go to fewer than 75,000 persons, less than 1 per cent of American corporate stockholders. Only one family in every six in the United States, up to 1941, paid an income tax; only one fourth of the tax-paying families received corporate dividends. The startling concentration of dividend payments is again illustrated by the fact that 40 per cent of the dividend payments are received by one tenth of 1 per cent of the families and single individuals in the United States.[15] According to the estimates of the Brookings Institution, in 1929, of all the dividend payments, 89 per cent went to people with incomes of $5000 or more, 79 per cent to those receiving $10,000 or more, and 55 per cent to those with incomes above $25,000. The facts do not support the popular notion that most Americans are owners of stock.

[14]Realized capital gains are those gains resulting from an increase in the value of assets which have actually been disposed of. In 1929 much of this gain was the direct result of stock-market inflation.

[15]Final Statement of Senator Joseph C. O'Mahoney, Temporary National Economic Committee, March 11, 1941, p. 8; *Profits, Productive Activities, and New Investments*, Temporary National Economic Committee Monograph No. 12, p. 50.

Table XXXIII · Percentage Composition of Incomes by Income Classes, 1926[16]

	TOTAL INCOME	COMPENSATION OF EMPLOYEES	ENTREPRENEURIAL NET INCOME	REALIZED CAPITAL GAINS AND LOSSES	NET RENTS AND ROYALTIES	DIVIDENDS	INTEREST AND MISCELLANEOUS PROPERTY	NUMBER OF INCOME RECIPIENTS
All income classes	100	62.9	17.6	2.9	4.6	6.1	5.9	46,412,000
Under $5000	100	71.4	17.2	.4	4.7	1.8	4.5	45,517,132
$5000 to $10,000	100	42.3	27.1	5.2	5.9	9.8	9.7	560,549
$10,000 to $25,000	100	33.2	21.4	9.1	5.1	19.3	12.0	246,730
$25,000 to $50,000	100	24.2	16.3	12.1	4.4	29.5	13.5	57,487
$50,000 to $100,000	100	17.8	14.2	15.0	3.4	36.2	13.5	20,520
$100,000 to $500,000	100	11.3	10.7	24.4	2.3	39.8	11.5	8,883
$500,000 to $1,000,000	100	4.6	6.8	34.7	1.9	41.7	10.4	468
$1,000,000 and over	100	2.9	2.2	50.1	.8	36.6	7.3	231
				Percentages, 1932				
All income classes	100	70.6	11.5	-3.8	3.4	6.1	12.2	50,503,000
Under $5000	100	73.8	11.4	-2.7	3.4	3.0	11.1	50,146,558
$5000 to $10,000	100	55.4	13.7	-3.9	3.5	15.5	15.8	251,014
$10,000 to $25,000	100	38.8	12.1	-4.8	3.6	28.2	22.1	79,210
$25,000 to $50,000	100	33.8	12.8	-21.9	3.3	41.3	30.7	18,480
$50,000 to $100,000	100	30.0	11.5	-43.7	2.9	65.2	34.1	5,902
$100,000 to $500,000	100	19.6	7.5	-53.9	2.3	90.2	34.2	1,730
$500,000 to $1,000,000	100	11.5	.9	-102.2	2.2	151.3	36.3	86
$1,000,000 and over	100	1.7	-.1	-32.8	.03	111.1	20.2	20

[16]*Concentration and Composition of Individual Incomes, 1918–1937*, p. 48.

The Case for Equality and for Inequality

The effects of such disparities remain for consideration. There is no substantial question of the diminishing utility of increasing income. This fact creates a strong presumption in favor of some approach to equality. Such presumption is to be rebutted only by cogent considerations in favor of great inequality. In a community of 101 families, 100 have incomes of $1000 each; one has $110,000. On the face of it the transfer of $100,000 from the latter to the former, giving $2000 a year to each of the 100 and leaving $10,000 to the one, would largely increase the total of happiness and well-being in the community, however great the suffering of the impoverished rich family. This unquestionable psychological presumption against inequality should never be forgotten.

The case for a minimum family income sufficient to make possible life in "health, comfort, and decency" is incontrovertible if we assume that the national income is sufficient to provide it for all, and that the guarantee of such a standard would not prevent the increase of per capita income by leading people to stop working hard enough. Above this minimum limit additions to the income of ordinary people are likely to add something in the way of education and recreation, and something to the beauty and completeness of living. The limits of family income which permit the relatively full development of ordinary and even extraordinary capacities are not high, however, in a community reasonably provided with modern social facilities. In the absence of such provision no amount of income can insure opportunity, unless indeed it be for a handful of people. Large incomes may be spent beautifully and usefully. Those who get them must justify their receipt, however, on other grounds than their effect upon the life of the receivers.

Historically inequality has enjoyed a double defense on the ground of its effects, first, on consumption; secondly, on production. Both justifications have lost much of their force. During the whole of its premachine history the world was miserably poor. Only because of inequality, only because the strong were able to appropriate part of the product of the weak, was it possible for anyone to enjoy relative plenty. Civilization was built on inequality. The development of the higher tastes and habits was the prerogative of the rich. Education, art, science—all the things that we think of as marks of the higher human development—were in large part the fruits of inequality, and great inequality at that. They are no longer the exclusive possession of the rich and well-to-do. The existence of gross inequalities is no longer generally defended by thoughtful persons on the ground that receivers of large incomes as a class raise the standards of public taste and thereby stimulate ambition for

better things. True, some of the multimillionaires of the past generation in the United States have endowed our universities and foundations and research organizations with hundreds of millions of dollars. Some of them have played the patron to art and artists. The practical wiping out of yellow fever, financed by one of the great foundations on the basis of research done in government hospitals, is an achievement of a high order. For such accomplishments gross inequalities in modern American incomes ought to be given due credit. But on the whole the lives and influence of many of the very rich since the Civil War have been something less than admirable. Probably our millionaires would have been more serviceable had they been less rich. For its useful influence on consumption the old inequality is not needed in modern American life.

We come to the second point. Widely unequal distribution, it is maintained, favors production in two ways. First, to leave businessmen free to make whatever profits they can is to stimulate them to their best efforts. Such stimulation means that production is increased by much more than the profits received by them. The huge disparities of income thus produced under our conditions are therefore well worth their cost. In this form the argument is a strong one, and in this form it is urged against every effort at curtailing profits in order to curtail inequality. On recalling the diverse and sometimes devious ways of making profits we realize that at best it constitutes a defense only of some profits and some resulting inequalities. Granting fully the fundamental role of profits under our system, we yet may argue that it is the possibility of profits, far more than their amount, that provides the stimulus to activity. Men perhaps will take greater risks if they are lured by greater profits. That they will work harder for fabulous profits than for reasonable ones is doubtful. If methods could be devised for lowering the profit peaks to a fraction of the old heights in the United States, but still leaving them as the peaks, it is at least a fair question whether businessmen would not work fully as well as they have done.

The second argument concerns the accumulation of capital. As we have seen, saving is done largely by people of large income. Reduce inequality and you reduce saving. Reduce saving and you reduce the increase of capital goods essential to increased production. The argument harks back to a time when the relative scarcity of capital instruments constituted an effective limitation on production. It assumes that all increase of saving is necessarily a good thing. This is not true. Recent experience and investigation indicate that our present needs are not those of early industrial capitalism. We have suffered in recent years not from a lack of saving but from a lack of investment outlets. Oversaving is a dubious blessing. Methods of promoting the

desired balance between consumption and investment might well at the present time include efforts to lessen the existing inequalities of income, which involve large amounts of almost automatic saving by the rich. Maximum saving is not necessarily optimum saving. Once again the old arguments for inequality do not now apply.

The positive argument against gross inequalities in our present-day society is by no means limited to the greater utility of well-distributed income and the well-nigh impregnable case for an adequate minimum income. It goes to the very organization of the productive process itself. Modern production, notably modern American production, is mass production for a mass market. The 513 income millionaires of 1929, and even the 374,000 persons with incomes of $10,000 and more, do not furnish such a market. They do not spend the bulk of their income on the everyday things that absorb most of the usual family income. They provide themselves with luxuries and save the rest of their income. Their savings, if invested, call for the creation of additional capital goods, no matter whether the industrial position dictates the provision of such added facilities or not. If such addition is not forthcoming, then savings may rush into the stock market and drive up prices of securities to unwarranted heights. Some such process seems to have occurred in 1929. To put the whole matter in somewhat different form, gross inequality in the distribution of money income at present appears calculated to bring about a departure from that balance between the production of capital goods and of consumers' goods which is requisite to the smooth and regular functioning of our economy. Apparently as our industrial and financial machinery is now organized we no longer can continue to turn over more than one fourth of the national income to less than one fortieth of the people without paying the penalty in industrial fluctuation, unemployment, and production far below capacity level. In the interest of rich and poor alike it has become imperative not only to raise the lowest incomes but to cut down the highest ones, and to cut them sharply. This is by no means to argue that incomes need to be made equal. It is important, however, to realize the tremendous disparities that characterize the present distribution of income in the United States, and to consider carefully the effects of these disparities on the production and enjoyment of the national income. Such realization is specially important in view of an equalitarian political tradition that denies the validity of personal distinctions resting on other foundations than those of mind and character. A tradition of that sort is bound to view present income disparities with something more than suspicion. Political, social, economic, and ethical arguments alike favor policies which look to the decrease rather than the increase of inequalities among money incomes.

Methods of Lessening Inequality

The popularity of large gifts and bequests by rich men to establish foundations for public purposes does little to lessen inequalities of income, though in their total activity such foundations may have a not unimportant influence on both the quality and the distribution of the real income of the future. But their total amount, spectacular though individual gifts appear, is not so great that the annual income received from it affects seriously the proportion of the total social income that continues to go to the wealthy. The Twentieth Century Fund listed 122 foundations with an estimated capital of about 950 million dollars. In 1930 they distributed a total of 52 millions, 37 millions out of income and 15 millions from principal.

More important, because more extensive, is the effect of endowments for educational, charitable, and other like purposes on the distribution of real income. A university with an endowment of millions of dollars charges its students a tuition fee that covers only a part of the cost of their instruction, meeting the rest out of the annual income derived from the investment of its endowment fund. By means of a system of scholarships and fellowships it actually gives to certain selected students not only the entire cost of their tuition but in addition their living expenses. All the students of higher intellectual institutions are supposed to be selected on the basis of better than ordinary intellectual ability, and recipients of scholarship aid are supposed to be chosen on the ground of unusual promise. Yale University alone during the year 1937–1938 distributed $1,200,000 in such scholarship aid. The income from endowment is thus annually turned over to the students not in return for anything that they have done but in the hope that the future income and well-being of the community may thereby be increased. The use of private endowments in behalf of a particular group gives an excellent example of the way in which the distribution of real income is thus modified to a certain extent without changing the distribution of money income among individuals, which is what people commonly have in mind in speaking of changes in distribution. Privately endowed hospitals and social services of every kind are other illustrations of the same principle, whose operation has an importance too little realized. In the same connection should be mentioned the tax exemption enjoyed by educational, religious, and charitable organizations on property used for their work. Through this exemption, a large sum in the aggregate, the state annually turns over, in effect, that amount of income to the institutions concerned, and they in turn distribute it without charge, in the form of real income, to the individuals who enjoy their services.

Efforts to limit inequalities of income by public action have for the most

part taken three forms in this country. First, a great body of business legislation and administrative policy has been directed against monopoly with its attendant piling up of large fortunes. Such action has taken two directions. In part it has been turned, not always wisely, to the protection and aid of the small business concern as against the large one. In part it has tried directly to keep down monopoly prices. Both efforts have rested on a sound instinct that sought lesser rather than greater inequality in the distribution of income. Secondly, our constitutional and legislative provisions, while extraordinarily tender of most property rights, have never been unduly favorable to the uninterrupted descent of wealth in families. Entails early were abolished. In general the power of the testator is limited in duration to two lives in being. Much more important, the world-wide movement for inheritance taxation has taken firm root here, and there is every indication that we shall see an increasingly vigorous use of that powerful instrument. Its effect in the actual breaking up of great fortunes has been small, however, up to the present time.[17]

Thirdly, and most important, since the Federal income tax came into existence in 1914 there has been a growing inclination to employ a rapidly progressive individual income tax to collect revenue for the carrying on of government services rendered to all citizens on the basis of need or desire and not at all on the basis of tax payment. Of course this tendency is far older than the income tax. Free public schools and other free services paid for by taxation have long been important means of shifting a part of the real income of the taxpayers, whoever they may be, to the poorer members of the community, who share such services in immensely greater proportion than they share in the national money income or in the payment of taxes. But since the income tax has made clearer the apparent possibilities of such a shift of income—particularly if a highly progressive income tax can be administered successfully, along with death duties—the whole movement has rapidly gained

[17]In this connection it may not be amiss to quote the following paragraph from G. D. H. Cole's article on "Inheritance" in the *Encyclopedia of the Social Sciences:* "The future of inheritance then appears to depend, on the one hand, on the growth in modern communities of collective methods of capital accumulation and of the control of business resources and, on the other, on the pressure of the popular movement toward a less unequal distribution of incomes; for this movement, ethical as well as economic in its driving force, results in forms of taxation which limit saving and impinge on profits and thus leads to the necessity of alternative methods of saving and of insuring adequate production. The two influences thus meet and mingle; and it is not easy to see how the institution of inheritance, save in a greatly modified form, can indefinitely stand out against them, despite the fact that it is for the moment strong."

force. At the present time it undoubtedly constitutes the most important method, within the range of immediate political possibilities, of lessening somewhat the discrepancies in real income that accompany the startling inequalities of money income earlier shown to exist.

Legislative provisions for social security and for minimum wages work toward this end. Trade-unions, in their efforts to increase wages, have become an important means of lessening inequality. It should not be forgotten, however, that inequalities of income are inherent in the operation of any system of private property. Efforts to lessen such inequality, if they are to be intelligent in conception and execution, therefore must take into account the entire operation of our present economic system and the possible changes in its working likely to be brought about by the proposed method of lessening inequality. It is hard to effect significant changes in the distribution of income without effecting other significant changes in our economic life as well. In many of the chapters which follow it will become clear that redistribution of income is going on constantly—sometimes by deliberate purpose, frequently as the result of changes by no means deliberately directed to that end—and that such redistribution is closely connected with many other changes.

CHAPTER THIRTY

Consumption

In the preceding chapter, in an endeavor to see what the money income distributed to individuals and families actually means in the distribution of goods, the subject of the consumption of goods was introduced, only to be postponed. As yet little attention has been given to the ultimate use of the product, though it is for the use of the product in the gratification of human wants that the whole complicated machinery of production exists. Whether or not we have a place in the army of workers who pour forth our annual income, whatever the form of our claim to a share of that income, all of us, young and old, sick and able-bodied, stupid and intelligent, lazy and industrious, are consumers, and as such furnish the reason for the ceaseless activity of the productive system. True, few consumers consciously think of themselves in this role. The mass of mankind spends many waking hours in production and forgets that consumption has not ceased while production goes forward. Many put more thought on productive activities than on consuming, and some find pleasure largely in work rather than in the use of income. Nevertheless, consumption is the goal of economic effort, and we can no longer ignore the part performed by the consumer. The organization of production, the price-making process, the size and character of the national income, the forces that make for its increase or decrease, the allocation of claims against it, all are important influences in determining the consumption of the population and in a measure are determined by it. Problems of taxation, of minimum wage, of labor organization, of the regulation of industry by the government, still to be considered, likewise have direct or indirect bearing on the well-being of the consumer and gain much of their importance from that fact.

Writing in the eighteenth century, when for three hundred years the power of the government had been used chiefly to forward the interests of the producer, Adam Smith doubtless overstated the importance of the consumer when he wrote:

"Consumption is the sole end and purpose of all production; and the interest of the producer ought to be attended to only so far as it may be necessary for promoting that of the consumer. The maxim is so perfectly self-evident that it would be absurd to attempt to prove it."

The great changes in methods of production which followed close upon the publication of the *Wealth of Nations* created the necessity, unforeseen by the author, for the protection of the mass of laboring producers (not the enterprisers of the author's thought) in their own rights. Insofar as he meant to contend that the interest of the consumer ought not to be sacrificed to the profits of the producer, as they had been in the past, his maxim can be wholeheartedly accepted.

The Consumer's Power of Choice

It already has been made clear (Chapter Twelve) that the consumer is not entirely the helpless creature of a system of production (and price) over which he has no control. The student will remember that when Mrs. Adams went to market prepared to buy strawberries, she was free to turn to prunes or to eat rice pudding. By her exercise of such choice she was helping to determine the future price of berries in the market and their future production. Suppose she and her neighbors persistently refuse to buy them at 35 cents a quart, which is the lowest price for which they can be produced. The merchants will cease to purchase them in the wholesale market, the gardeners will carry them home unsold or will let them go at prices which do not repay the cost of raising them. Let this refusal on the part of housewives continue, and eventually the gardeners will plow under a part of their strawberry plants and start asparagus beds. That is to say, the demand schedule (the amounts consumers will take at various prices) is largely responsible for market prices and therefore for both amount and kind of goods produced. What the consumer will take at a price profitable to the producer will be produced; what the consumer will not take at such a price no producer will for long go on producing. Persistent refusal to use cigarette-lighters would eventually cause them to disappear from the market. The public fails to use the service of a small branch railway, and the line is abandoned. Prevailing fashion acclaims modernistic furniture, and modernistic furniture fills the shops.

Here it may be objected that much of our production is of goods not used by the consumer. No consumer goes forth to buy a locomotive, a bridge, a riveting machine, or a bale of cotton. True enough, but a moment's thought will bring the answer to this objection. Whether the producer provides consumers' goods or producers' goods, the influence of the consumer on the nature and volume of his production is always present. It may be immediate, as when it determines the number of bushels of potatoes the local market carries for its Saturday trade; or it may be operating on the demand for steel which will provide the plows that aid in producing a potato crop for a remote future.

In the one instance it can be seen and judged; in the other it is remote and uncertain, but the influence is no less real.

This power of the consumer in the market has caused our present economic order to be described as a consumers' democracy. Each consumer, it is said, casts dollar ballots for the goods he wants. It is a strange democracy, however; for it involves plural voting, and a small proportion of the voters cast a vastly disproportionate part of the ballots. Consumers' choices count only as they carry dollars with them. All choices are made within the limits of income. The larger the income the greater the control over the system of production, and the wider the range and freedom of choice. Another peculiarity of the "consumers' democracy" is that it limits the voting chiefly to women. Though the body of consumers is coextensive with the population, most of the ballots are cast by those who do the retail marketing. Actually about 85 per cent of market choices are made by women, who thereby determine the consumption of the family.

A further characteristic of this "democratic ideal" is to be found in the price structure. Not only must the consumer work within the limits of his income but his choices must be made with reference both to the price of the particular article he considers at the moment and to many other prices. Suppose rents in the community are high; the consumer pays an exorbitant share of his income for housing, and some other expenditure must be cut. Milk prices are raised; housewives who consider milk essential omit something else from the family budget. Articles regarded as necessary take precedence, and changes in their prices affect our purchases of other articles.

Still another limitation encountered by the dollar voter may be mentioned but needs no extended comment. Though in the long run consumers may, as was said above, control what is produced, this is not true at any given moment. At the instant of choice they are obviously restricted to the goods in existence. By buying a blue dress rather than a brown, a rayon rather than a silk, the shopper registers with the manufacturer a vote for a blue rayon dress, but unless he has given her the opportunity by putting green wool dresses on the market she has no way of telling him that she really prefers green and wants a light-weight wool dress. The shoes she wore last year suited her perfectly, but the salesman blandly assures her that they are not being made this year. She must make her choice among this year's models. Last year's hats may have satisfied masculine purchasers unusually well, but they are unable to find duplicates this spring. Last year's cars may please drivers more than this year's, but only new models may be available. Moreover, not only must the purchaser choose among goods in existence, but he has little opportunity to offer suggestions for future changes.

The Determinants of Choice

Within these limits the consumer makes the market choices which ultimately control production. The student who wishes to push his study of economic organization beyond the expression of market choices and their effect is bound to ask, "What determines such choices?" "Why do we demand what we do?" "Why do we place higher values on goods of one sort than on those of another equally useful, judged by common-sense standards?" Comprehensive answers to such questions would range widely. Consumption is living, and living transcends economic boundaries. In addition to economics, we should have to resort to studies of natural science, of anthropology, of physiology and psychology, of geography and social environment, before we answered them. The physiological and psychological make-up of each one of us, the natural world around us, the state of technological progress, the social group in which we live, the deliberate pressure of the producer, all these and more are influences pushing us to this or that choice.

Nature affects our choices: people in cold climates need and demand warm clothing, houses substantial enough to protect them, fuels to temper the severity of the cold, foods to generate heat. Refrigerators are less important than furnaces. Nature also affects our choices by yielding foods to which we become accustomed and will continue to demand when we have left the region to which they are indigenous. Modern improvements in methods of transportation make this of little significance to the present generation; yet it goes far to explain differences in diet to be found in different parts of the world even today. Nature may limit our supply of some foods by drought or pest, and thus force us to use less desirable substitutes. The material we use for clothing or housing is in part at least the result of nature's dictates. Early Americans lived in wooden houses not because, as an interpreter of American life once explained, they were nomadic by temperament and disinclined to use more permanent materials but simply because nature supplied wood in great abundance. The weather often becomes an important factor in determining consumption. During a week of excessive heat the sale of ice cream is five hundred thousand gallons above normal consumption and retail stores sell out their bathing suits. A bitter January fills the Florida hotels; a warm winter leaves many fur coats in the dealers' hands.

The progress of invention widens the range of choice and renders obsolete goods once highly desirable. Electricity reduces the use of oil lamps; vacuum cleaners lessen the purchase of brooms. For personal choices there is often some physiological basis. Certain foods we like; others we do not like, without apparent reason. Some things disagree with us and must be omitted from

our diet even though the taste is an agreeable one. Many of our wants are the unreasoning result of habits the origins of which are lost, or of the conventions of the group by which we are surrounded, or of the customs into which we were born. We drink coffee rather than tea for breakfast not because, after consideration of the two possibilities, we find that we prefer the taste or the effect of coffee but only because it is the family habit and the family habit reflects the habit of the community. Once we migrate to a community which habitually drinks tea for breakfast we give the matter real consideration, but the chances are that by this time the habit is too well established to give way. Europeans habituated to the use of wheat bread and unfamiliar with corn products found it well-nigh impossible, during the first World War, to relieve the scarcity of wheat by the use of corn. This is not to say that many such habits may not have had a reasonable basis. The fact that much of everyday life is reduced to habit (and desirably so) is of importance to the economist's explanation of the price-making process only as it provides an element of stability in the demand schedules. Much the same thing may be said of established custom. To charge that it does not rest on choices deliberately reasoned out is of no significance in considering its effect in the market.

The form of our group life has much to do with our demands. The young woman coming into the college community for the first time desires to copy the clothing of her companions. She discovers new wants which are wants only because of what she sees others using. A wardrobe which at home she regarded with gratification becomes merely commonplace and in acute need of increase as her roommate's trunk is unpacked. The desire to furnish her room as others do adds to her demands. Her new occupations call for new expenditures. She has stepped into a different world, one with its own set of consumption needs and with standards which each individual member wishes to achieve. Choices from this time on, limited of course by the size of her allowance and in much less measure by her personal taste, have become in large degree a matter of group imposition. She buys what her fellows buy.

The same thing is true of any social group. Young married people in a community must do what their neighbors do. "Keeping up with the Joneses" is probably responsible for a large part of the family expenditure of the well-to-do and a smaller part of that of the poor, whose choices are more rigidly limited by the contents of the pocketbook and the necessity of satisfying existence wants at a minimum of expense. We read what our friends read, we see plays that are talked about, we travel where others are traveling. We wear what "they" are wearing. Choices are expressed here, to be sure, but they result only in small measure from individual exercise of taste or reason. Again, this does not mean that the economist's analysis of individual utility must be

discarded. It only suggests that to most of us greater satisfaction comes from adapting our consumption to that of the group than would come if we went our individual ways independent of the doings of those about us.

Advertising and Consumer's Choices

Thus we buy what climate and custom suggest, what fashion dictates, or what our neighbors possess. Are all these forces which have acted upon us as consumers quite independent of the activities of the producer? If up to this time we have represented him as helpless and passive, waiting to learn the behest of a body of active and articulate consumers, we have given a most misleading picture. To what extent we as individuals or in groups learn what our wants are from the producer who desires to sell goods to us we none of us can tell. His advertising pressure is ever with us. By constant reiteration he puts his wares before us. By newspapers and magazines, by billboards and radio, in subway and on the highroad, in our homes and with our friends, we are subjected to a barrage that few of us can long resist. Slogans such as "Good to the last drop," "The pause that refreshes," "Motorists wise Simoniz," "Ask the man who owns one," "Pinpoint carbonated," become embedded in our minds. Names spring uncalled to our lips when we enter a shop. Curiosity, if not need, induces us to try this or that new product; fear incited by horrifying pictures or terrifying text sends us to this tooth paste or that insurance company. Vanity tempts us to new means of achieving beauty, undeterred by the failure of former experiments.

The autumn advertising campaign will, by means of much expenditure of money, introduce to us a new cosmetic; at a "merchandising and fashion clinic" retailers are taught how to push "color co-ordination." "Every well-dressed man" will soon learn what "is worn" this year. A host of new demands thus come into existence. Drug manufacturers unite to push "nationally advertised drug products." Each month some widely read magazine will in a full-page advertisement point out to consumers the "convenience, economy, and quality" of the selected products. Newspapers will "co-operate editorially." What chance has the uninformed consumer against such campaigns? The National Dairy Council desires to increase the consumption of milk. Fifty thousand chain food stores and one hundred and fifty thousand independent food stores promote a National Milk Month. In a single year $7,000,000 is expended to make Lucky Strike a household word. The fears, the vanities, the ambitions, the envies, and most of all the ignorance, of the consumers make them easy victims of advertising pressure. They offer little "sales resistance" save that imposed by their purses.

The purpose of the advertiser is twofold: he attempts to create new wants, which as a producer he is prepared to satisfy at a profit; he also strives to show that his goods will satisfy existing wants better than those of his competitors. To a certain extent advertising is a force which unites producers in combined assaults upon the tastes, the habits, and the pocketbook of the consumer. While the market is being increased by combined efforts of groups of producers it behooves each individual producer to obtain what he regards as his share of the increase by individual advertising. He endeavors to differentiate his product from those of his rivals and thus gain the advantages accruing under limited competition. As a competitive weapon advertising is often used with deadly force to eliminate weaker firms, unable to bear the strain of similar expenditures.

The growth of advertising has added greatly to the complexity of the existing order, and many questions might be posed to which as yet we are unable to give positive answers. To the consumer (as well as to the producer) one of the first of these concerns the effect of the cost of advertising on the price of the product. Does the enlarged market which results from an extended advertising campaign so increase the scale of production as to reduce the unit cost and make possible a reduction in the price of the product? Or are the conditions of the industry such that advertising costs necessarily increase not only total costs but also unit costs and, in the end, prices? Undoubtedly the latter is the result in many industries. To what extent can advertising be regarded as a means of educating the consumer, and to what extent does it mislead him? No quantitative answer can be given, but a thoughtful examination of the advertisements which fill our magazines makes startlingly obvious the absence of the kind of information necessary for intelligent purchasing.

Has advertising on the whole raised the standard of living or has it made of that standard a poorer thing than it might otherwise have been? If all advertising could be abolished overnight, should we continue to eat and drink, to buy cars and beds and beauty preparations, to brush our teeth and use the telephone and ride in Pullman cars, to wash our clothes and cook our meals, or should we gradually relapse into an inactive and wantless existence?

Consumer Credit

Without attempting to answer the questions raised by modern advertising practice, we turn to a second important influence in directing choices. Reference frequently has been made to the fact that choices must be made within the limits of money income, and we have assumed that consumers were

in possession of such income when they made their market purchases. Before we go further it may be well to see how far this assumption is justified. What is the actual process by which exchanges take place? We find that frequently the consumer obtains and uses the goods before he has received the income with which he will pay for them. He buys on credit, just as the businessman operates on credit. The system of charge accounts or book credit has arisen largely for the convenience of the buyer. Most incomes are received at stated periods, once a week or fortnight or month or quarter. Purchases for living must be continuous, but clearly it is easier to pay at stated intervals, probably corresponding to the receipt of the income. To receivers of small incomes this method is often not only convenient but almost necessary. Their wages come after the work has been done. They have no margin with which to pay living expenses ahead of the receipt of wages and must rely upon the willingness of the merchant to advance to them what they need, receiving his payment when they receive theirs. To the well-to-do, who make greater use of this form of credit, the charge account is merely a less troublesome way of buying goods, one which makes the technical part of the spender's task easier. The cost of extending such credit to his customers the merchant accepts as one of the costs of merchandising, and it enters into his price as any other cost, paid by those who use the service and by cash customers alike. Most merchants believe, probably rightly, that they sell more because of this system. The careless shopper frequently may say "Charge it" when if she were obliged to pay at the moment she would reject the purchase.

Far more important in its effects is the practice of installment buying, by means of which many durable consumption goods are purchased. Book credits run for a short time and then are paid in full; installment payments are made at fixed intervals over a much longer period. Installment buying is not new. Long before its present vogue houses were bought or built by this means, sewing machines were put upon the market under such terms, pianos passed into the hands of the public by installment payment. When families of moderate income wished an expensive and durable good, they found it necessary to spread the purchase over a considerable period. Since the use of the good likewise would be spread over a considerable period, this seemed an eminently sensible budgeting procedure, similar to an amortization plan made by a corporation to care for a bond issue. The element that is new is the number of such durable goods that even the family on small income thinks it necessary to possess and can obtain by some "easy payment" scheme. In the present development the automobile industry led. By 1915 the expansion of productive capacity in this industry had forced producers into active search for a wider market. Such a market the large number of families on small income

could supply if they could be shown that it was possible for them to pay for their purchase. Once the automobile industry had worked out plans for installment payments, producers of other durable goods adopted the method.

Before the second World War from 70 to 90 per cent of radios, automobiles, pianos, washing machines, sewing machines, refrigerators, and vacuum cleaners were sold on the installment plan or, as the English say, by "hire purchase." These goods compete with one another in their attack on the purchaser's pocketbook, and each new commodity offered for sale on "easy terms" forces the producers of other commodities to accept similar methods of payment. In fact, each purchase on such terms renders a family increasingly unable to pay cash for anything. This suggests some of the obvious results of the system. The family on small income is able by means of this method of payment to enjoy the services of many durable goods which otherwise it would not have. To save for a future possession, in the face of the innumerable demands which the present makes upon one's purse, is difficult; for many, well-nigh impossible. But with the good actually in use, and with a contract which calls for so much money each month, the saving becomes obligatory. The money income of the family, however, has not been augmented; a larger proportion of it has been diverted to these durable goods. Undoubtedly the satisfaction enjoyed by the family has been increased in many instances, even though now fewer perishable goods can be purchased. On the other hand, if high-pressure salesmanship, on one side, and lack of intelligent budgeting, on the other, have expanded the number of monthly payments that must be made beyond any possible expansion of the monthly income, the evils of the system, even when honestly administered, become apparent. The Massachusetts Committee on Consumer Credit reported, among other illustrations, that of a family of five, on an income of $100 a month, possessing a piano, refrigerator, automobile, clothes, and furniture all bought on deferred-payment plans. Their liabilities amounted to $1190, with no assets beyond these goods. Another family, with no assets, had liabilities of $7754, and in a single year had purchased on this form of credit $1000 worth of goods in excess of its annual income. Since contracts usually provide either that the title rest with the seller until the payments are complete or that if the title passes to the buyer he give to the seller a chattel mortgage, any family once involved in a web of debt is likely to lose all its purchases, no matter how much it has already paid. The law as it now stands in most states protects the seller at the expense of the buyer.

Possible loss of the purchase is by no means the only abuse to which the buyer is liable. The terms of the contract are such that few buyers understand the rate of interest they actually pay; in fact, so complicated are these terms that occasionally the salesman himself has no idea what the actual interest

charge is. The Massachusetts study already mentioned showed that the most common interest charge on the sale of new automobiles by installment plans ranged from 10 to 36 per cent; one radio company, which emphasized the fact that by doing its own financing rather than using the services of a financing company it saved financing charges, was found to be receiving 87 per cent on the postponed payments. In 115 instances investigated the quoted rates were most frequently 6 per cent; the actual rates ranged from 11 to 20 per cent, in one instance soaring to 679 per cent. A similar investigation in Wisconsin found that the actual rates were usually from 17 to 40 per cent. The discrepancy between real and quoted rates does not result commonly from intent to deceive but is inherent in the very nature and complexity of the contract. There are, however, opportunities in plenty for deliberate fraud, and instances of it are not infrequent: customers find that they signed blank contracts, the seller takes illegal possession of the purchased product, or the debt is financed and refinanced at excessive cost. Yet fraudulent practices probably work less widespread damage than the abuses which lie within the shelter of the existing law.

From the custom of installment buying there have grown up financial agencies for supplying the credit which at first was supplied by manufacturer or dealer. These are common in the automobile industry and are to be found in other fields also. They may be subsidiaries of the manufacturing companies, as the General Motors Acceptance Corporation, or affiliates of a commercial bank. The dealer sells the customer's note to the finance company. This the finance company usually discounts at a commercial bank, as few of the finance companies are sufficiently capitalized to carry the paper themselves. In recent years an American Bank Credit Plan has been set up whereby the purchase of cars and trucks can be financed through local banks, thus reducing the charges for such services.

In summary it may be said that the practice of installment buying shifts a certain amount of consumption from immediately perishable to durable consumers' goods, that it enables many families to enjoy the services of such goods that otherwise would never achieve them, and that it increases the market for such goods and thus makes their mass production, with whatever advantages it has to offer, possible. Some defenders of the system add that it stabilizes production, but on examination this seems highly doubtful. It would seem to increase rather than to decrease cyclical variations in production. The evils of the system lie in the excessive prices customers pay because of the heavy interest charges, the frequent loss of the product after a considerable sum has been paid for it, and the heavy burden of debt contracted by many families.

Another form of consumer credit is the small money loan granted to consumers, for which innumerable institutions exist. The very poor, unable to borrow under our commercial banking system, have long been the prey of such institutions. In extremity they borrow on whatever terms they can get, often in ignorance of the meaning of the words of their contracts. The sufferings inflicted by "loan sharks" have frequently been exposed, and twenty-six states have attempted by the passage of small-loan laws to bring such loans under public control. In spite of these laws exorbitant interest charges, sometimes amounting to more than 100 per cent, are not unusual. Such figures sufficiently illustrate the abuses to which the small money loan is open without further laboring of the point.

To some extent consumers have attempted to provide themselves with credit by organizing co-operative credit associations. Building and loan associations are the oldest and most common form of such effort, but credit unions which provide means of saving small amounts and borrowing for general consumption purposes have achieved some strength in our larger cities. Three million members borrowed 350 million dollars through credit unions in 1945. Also, the Federal government, by its loans to home-owners and to veterans, is providing consumer credit for strictly limited purposes. These are small beginnings toward providing credit for consumption purposes which will benefit rather than injure the consumer.

Standards and Scales of Living

Thus far our discussion has for the most part had reference to the influences at work upon single and more or less unrelated choices, but, as was suggested earlier in the chapter, choices are not made singly and independently. One choice involves another. The buyer of a car is committed to the purchase of gas; a pen calls for ink; a railway journey necessitates a traveling bag. The processes of living which we call consumption result in a sum total of intermingled choices, in part determined by income, in part by our "standard of living." This term, unhappily used to express not one but a variety of concepts closely related but by no means identical, is best defined as the satisfactions deemed essential by an individual or a group. The goods actually used by the group may be called the scale of living. We do not always have what we deem essential. Our standard may represent more goods than the income supplies. On the other hand, it is conceivable that the scale at times may contain a greater abundance than the standard calls for, though we may be sure that under such circumstances our standard will soon overtake our scale; what we have once enjoyed we soon find essential. So far as measurable prod-

ucts are concerned, the difference between standard and scale is probably not great. There is, however, another and a more important difference between the two terms as we here use them. The word "satisfactions" in our definition of the standard of living opens the way to psychological considerations and to the inclusion, in our standard, of values that extend beyond economic measure. Scales represent the tangible and measurable evidences of consumption. For the psychic income we derive from the beauty of the sky or trees or autumn colors, from reading or music or intercourse with our friends, or from our own power of understanding, we have no measure. The ability to find joy in simple things, to create attractive surroundings at small expense, and to make such purchases as will continue to yield pleasure makes possible a high standard, judged by satisfactions, along with a modest scale. It is necessary only to look about to see that the converse also is true. Without the power to enjoy, an abundance of goods cannot bring satisfaction. Inability to choose what will provide lasting gratification may result in a surfeit of goods but little pleasure. The quality of the individual and the quality of living he creates enter into any judgment of standards; the quantity of goods achieved determines the scale. Yet the relation between them is a closer one than this seems to indicate. The standard exerts a powerful influence on the scale, dictating the form of expenditure; the scale in turn exercises a constant effect on the standard. Our knowledge of standards of living, about which we make many judgments in spite of our avowed lack of measures, comes chiefly from a study of scales of living, and most discussions of standards are really discussions of scales.

Per Capita Consumption and Scales of Living

In studying scales of living we are attempting to determine what goods and how much of each the population actually consumes. This is in reality another way of stating the problem of distribution of real income raised in the preceding chapter. There are two possible methods of pursuing such study, both useful. One has been considered already in the discussion in Chapter Twenty-four of the national income consumed. By discovering how many pairs of shoes are manufactured in a given year, how many exported and how many imported, by ascertaining the annual volume of production of milk and beef and wheat and cotton, the tons of soap manufactured plus those imported and minus those exported, we can assemble the total of goods offered to consumers in a single year. Though we have no satisfactory figures for total income consumed, we have plenty of information about the production of particular commodities and can arrive at reasonable guesses about per capita consumption of these commodities. By means of such figures we can make certain mass

comparisons of the consumption of different countries or of the same country at different times, and can draw tentative (and often unsound) conclusions about the scales of living of these countries. For instance, before the first World War the consumption of meat in Italy was but 23 per cent of ours. In the years from 1930 to 1934 our annual meat consumption was 134.6 pounds per capita; that of New Zealand was 227.9 pounds; of Italy, 35.9 pounds. These figures do not necessarily mean that the New Zealand scale of living is the highest and that of Italy the lowest. They may indicate that meat is cheap in New Zealand, and that the Italians, perhaps because of their climate, do not like meat.[1] The per capita consumption of soap in the United States is 25 pounds, while the world average is 6.6 pounds. Denmark consumes 107.6 pounds of sugar per capita to our 89.2. We possess one motor vehicle to each 5.1 persons; Belgium, one to each 39.5. Such figures in themselves scarcely justify us in speaking of "higher" or "lower" standards or scales of living. Do we use more soap because we place a higher value on cleanliness, because soap is cheap, or because this is a country in which there is more grime to be removed than in the rest of the world?

Comparisons of per capita consumption within the same country at different times are more illuminating; yet even with those we must use the terms "higher" and "lower" with caution. In 1899 our per capita consumption of wheat was 222.2 pounds; of oranges, 6.7 pounds; of apples, 106.9 pounds; of canned fruit, 2.3 pounds. In 1927 we consumed 192.7 pounds of wheat, 16.4 pounds of oranges, 67.7 pounds of apples, 9.9 pounds of canned fruit per capita. Obviously our food consumption had changed, but from these figures we cannot conclude that we have moved to a higher or lower level of consumption. It must be remembered also that figures of total and of per capita consumption leave us in complete ignorance of the distribution of the goods. For all we can tell, the motor vehicles in the United States may be owned by a very small proportion of the population; oranges may be consumed by the excessively wealthy and be unknown in the diet of the poor.

Family Expenditures and Scales of Living

The second method of studying the consumption of a population is by the study of the family expenditures. Though accounts of the expenditures of individual families can be found throughout recorded literature, the accumu-

[1]E. E. Hoyt, *Consumption in Our Society* (McGraw-Hill Book Company, 1938), pp. 244–251. Census figures of manufactures, reports of the Department of Commerce, figures of retail marketing, the *Monthly Business Review*, League of Nations studies, provide a vast amount of material for such computations.

lation of such information about groups of families goes back only to the seventeenth century. Since that time the body of this literature has increased rapidly. A bibliography lists fifteen hundred such studies, made in fifty-two countries. Some of these merely state the money income expended by groups of families, without data on the goods consumed; others include material showing the character of actual consumption. Some investigators have formulated generalizations about the proportion of income spent to satisfy different desires; some include evaluations of consumption.

Early studies were chiefly of wage-earning groups or of those with small income or with no income at all. This was partly because the concern of many of the first students was with the problems of poverty, partly because, since the poor were more numerous and their budgets more uniform, these groups offered greater possibilities for generalizations, and partly, perhaps, because the poor accepted impertinent questions about their incomes and expenditures that would have been resented by the well-to-do. More recently the range of investigation has been widened, and there are at present many studies of the consumption of farm families, of professional groups, or of middle-class groups in general. We still have comparatively little detailed information about the expenditures of the rich.

We need here refer to but one of the earlier studies, that of Ernst Engel. Engel was interested in the statistical study of income and expenditure with the idea that laws of expenditure might be derived. From his own researches, chiefly in Saxony, enriched by his knowledge of the work of others, he derived certain cautious conclusions: (1) the poorer the family the larger is the proportion of its income which must be spent for food; and (2), other things being equal, the proportion spent for food is the best measure of the well-being of a people. Engel went no further, but from his figures others less cautious drew the generalizations which are commonly known as Engel's laws:

1. As the income increases, the proportion spent for food decreases.
2. As the income increases, the proportion spent for clothing increases slightly.
3. As the income increases, the proportion spent for housing (rent, fuel, light) remains constant.
4. As the income increases, the proportion spent for sundries increases.

A glance at one of Engel's tables (Table XXXIV) shows the basis for these so-called laws. If the student will test them by the figures of Tables XXXV and XXXVI, he will see for himself to what degree later study has supported or failed to support such exact statement of the relation between the size of the income and its allocation as was made by Engel's followers.

Table XXXIV · Percentage Distribution of Income among Classes of Expenditures, Saxony

INCOME	WORKING CLASS (UNDER 1200 FRANCS)	MIDDLE CLASS (1200 FRANCS–3000 FRANCS)	WELL TO DO (OVER 3000 FRANCS)
Food	62	55	50
Clothing	16	18	18
Shelter	12	12	12
Fuel	5	5	5
Miscellaneous	5	10	15

American Family Budgets

In the United States we have innumerable small but highly useful studies, confined to a single locality, to a specific industry or social group, or to some particular expenditure, as that for rent, food, or medical care. These are the work of individuals or social workers' organizations, of trade associations or committees for studying this or that. The most valuable and comprehensive studies have been made under the auspices of the government. Not long after the Civil War the Massachusetts Bureau of Labor Statistics began the accumulation and publication of laborers' expenditures. This example was soon followed by other states; but, more important, in 1903, after some smaller studies, the United States Bureau of Labor published data relating to 25,000 families, extending over 33 states. No family was included which received more than $1200. In 1918–1919 a similar study of 12,000 families was conducted by the Bureau of Labor Statistics. The most recent extended study was a project of the Works Progress Administration conducted by the Bureau of Home Economics and the Bureau of Labor Statistics with the co-operation of the National Resources Committee and the Central Statistical Bureau. *Consumer Expenditures in the United States*, already cited, reports the results of this survey. A study of city families, their incomes and expenditures, in 1944 makes possible comparison between expenditures in depression and in war prosperity.

These American surveys have endeavored to find out just what goods were actually used by the groups studied and what they cost, and thus to determine the scale of living which different incomes could provide, as well as the proportion of the income absorbed by each class of purchases. Tables XXXV and XXXVI which follow represent certain of the results of two of the studies. Though the income divisions are not the same in the two tables, the student may make some useful and interesting comparisons. The item "transportation" of these studies includes expenses of an automobile as well as all other transportation expenditures; the item "miscellaneous" covers house furnishings,

personal care, tobacco, reading, education, and "other" items. Table XXXV is based on a study of some 60,000 families, scattered through cities, villages, and farm communities; the figures for 1944, Table XXXVI, are derived from a survey of 1700 consuming units in 102 cities of all sizes and in all regions of the United States. In comparing the two periods the increase in the amounts spent for food, clothing, and housing in the same income divisions is the most important difference. In 1935 those with incomes of $500 or less spent $203 for food; in 1944, $374. For clothing they spent $35 in 1935, $42 in 1944. Medical care for those receiving between $1000 and $1500 absorbed $53 in 1935, $94 in 1944. Two influences contributed to these differences: one, the higher prices of 1944; the other, the fact that all families of the second survey lived in cities, and might be expected to spend a larger proportion of their income for basic necessaries than rural consumers. The index number for cost of living in 1935 was 98.1; in 1944, 123.6. The inevitable result of these increased expenditures was deficits. In 1935, families with incomes of $1250 managed to accumulate small savings; in 1944 this was not accomplished until the income was over $1950.

Table XXXVII, based on a local study of 1934, illustrates expenditures in differing income groups, where the character of the occupation of the income-receiver, as well as the family expenditure, is indicated. Here again the student will find it worth while to contrast the percentage of income spent for different items with the average expenditures for the same items as they appear in the more extensive studies. The figures of the table strikingly illustrate the drop in the *percentage* spent for food as the income rises, though the *amount* spent by the executive group is almost 70 per cent greater than that spent by the wage-earning families. Many other items are highly suggestive: for example, for medical care the wage-earners and the executives of this study spent the same percentage, though the actual amounts spent by the latter were three and two-thirds times the expenditure of the former.

We have also many studies of the expenditures of single individuals, of which we give two examples. In Table XXXVIII the student may be interested in comparing the difference in the allocation of similar incomes by men and women. The variation in cost of household operation may be explained by the assumption that women do-more for themselves. Men seem to spend more on recreation (perhaps wisely); women, contrary to usual opinion, spend more on others. In 1944, single individuals with incomes of less than $1000 ran behind; above $1500 their savings mounted rapidly. Comparing the figures of Table XXXVIII with the comparable ones of Table XXXIX, we observe the same differences which we found in family expenditures: the amounts spent for basic necessities have increased sharply.

Table XXXV · Average Expenditures of American Families for Main Categories of Consumption by Income Levels, 1935–1936[2]

INCOME LEVEL	ALL ITEMS		FOOD		HOUSING		HOUSEHOLD OPERATION		CLOTHING		TRANSPORTATION		MEDICAL CARE		RECREATION		MISCELLANEOUS	
	Amount	Percentage	Amount	Percentage	Amount	Percentage	Amount	Percentage	Amount	Percentage	Amount	Percentage	Amount	Percentage	Amount	Percentage	Amount	Percentage
Under $500	$466	100.0	$203	43.6	$90	19.3	$57	12.3	$35	7.5	$18	3.9	$22	4.7	$6	1.3	$35	7.4
$500–$750	707	100.0	310	43.8	125	17.7	85	12.0	56	7.9	33	4.7	29	4.1	11	1.6	58	8.2
$750–$1000	914	100.0	380	41.5	161	17.6	106	11.6	78	8.5	53	5.8	38	4.2	17	1.9	81	8.9
$1000–$1250	1127	100.0	433	38.4	203	18.0	130	11.5	100	8.9	81	7.2	47	4.2	25	2.2	108	9.6
$1250–$1500	1316	100.0	487	36.9	230	17.5	149	11.3	123	9.3	107	8.2	57	4.3	31	2.4	132	10.1
$1500–$1750	1512	100.0	527	34.9	267	17.6	166	11.0	147	9.7	139	9.2	71	4.7	42	2.8	153	10.1
$1750–$2000	1684	100.0	558	33.1	302	17.9	186	11.0	164	9.7	172	10.3	79	4.7	49	2.9	174	10.4
$2000–$2500	1968	100.0	617	31.4	349	17.7	213	10.8	207	10.5	222	11.3	91	4.6	62	3.2	207	10.5
$2500–$3000	2302	100.0	690	30.0	404	17.6	260	11.3	255	11.1	266	11.5	109	4.7	81	3.5	237	10.3
$3000–$4000	2729	100.0	770	28.2	485	17.8	319	11.7	316	11.6	320	11.7	132	4.8	105	3.8	282	10.4
$4000–$5000	3276	100.0	852	26.0	571	17.4	400	12.2	408	12.5	417	12.8	158	4.8	136	4.2	334	10.1
$5000–$10,000	4454	100.0	1038	23.3	784	17.6	584	13.1	557	12.5	570	12.8	248	5.6	206	4.6	467	10.5
$10,000–$15,000	6097	100.0	1214	19.9	1204	19.7	761	12.5	829	13.6	795	13.1	227	3.7	340	5.6	727	11.9
$15,000–$20,000	9134	100.0	1785	19.6	1490	16.3	1179	12.9	1265	13.8	1318	14.5	416	4.6	486	5.3	1195	13.0
$20,000 and over	14,822	100.0	2261	15.3	2721	18.4	2177	14.7	2177	14.7	2178	14.7	837	5.6	921	6.2	1550	10.4

[2]*Consumer Expenditures in the United States*, pp. 23, 79. For full explanation of these figures see ibid. pp. 22–29.

Table XXXVI · Average Money Income, Expenditures, and Savings of Families of Two or More Persons, in Cities, by Income Class, 1944[3]

ITEM	ANNUAL MONEY INCOME AFTER PERSONAL TAXES									
	Under $500	$500 to $1000	$1000 to $1500	$1500 to $2000	$1950 (Break-Even Point)	$2000 to $2500	$2500 to $3000	$3000 to $4000	$4000 to $5000	$5000 and Over
Per cent of families in each class	1.5	5.2	5.3	10.7	—	14.0	14.7	23.0	11.2	14.4
Money income after personal taxes[4]	$313	$776	$1243	$1779	$1950	$2259	$2757	$3480	$4408	$7595
Expenditures for current consumption	887	1053	1407	1788	1877	2051	2410	2838	3439	4305
Food[5]	374	434	555	701	733	797	913	1043	1150	1386
Clothing	42	80	163	234	250	283	364	462	623	848
Housing, fuel, light, and refrigeration[5]	257	251	298	341	359	394	430	488	547	616
Household operation	56	47	66	83	87	93	110	140	166	295
Transportation	23	39	55	86	98	119	156	182	261	280
Medical care	62	88	94	105	105	104	123	149	190	265
Recreation	3	15	28	46	49	55	63	82	105	137
Miscellaneous	70	99	148	192	196	206	251	292	397	478
Personal taxes[4]	2	13	32	86	119	180	270	402	559	2385
Gifts and contributions	26	30	47	66	73	86	119	119	203	454
Net savings or deficit	-600	-307	-211	-75	0	122	228	523	766	2836
Average number of persons[6]	2.45	2 45	2.78	3.03	3.05	3.10	3.13	3.69	4.01	4.13
Average number of earners[6]	.35	.72	1.15	1.22	1.24	1.27	1.31	1.57	1.97	2.12

[3]*Monthly Labor Review*, January, 1946, p. 4. Preliminary estimate.

[4]Average money income within the bracket is the sum of line 2 and personal taxes. Inheritances and gift taxes are not subtracted, as inheritances and gifts are not included in money income.

[5]Food expenditures include those for alcoholic beverages; housing includes rents and operating expenses.

[6]Someone connected with a family for 26 weeks was counted .5 of a person. A family member who worked for pay any part of the year was considered an earner.

Table XXXVII · Family Budgets for Executive, Clerk, and Wage-earner, 1934[7]

	EXECUTIVE		CLERK		WAGE-EARNER	
	Annual Cost	% of Total	Annual Cost	% of Total	Annual Cost	% of Total
Total cost	$5590.88	100.0	$2033.41	100.0	$1544.16	100.0
Income tax	49.86	.9				
Food	835.24	15.0	599.43	29.5	496.76	32.2
Clothing and upkeep	705.94	12.6	360.24	17.7	226.56	14.7
Man	198.66	3.5	99.77	4.9	63.06	4.1
Wife	329.49	5.9	119.09	5.9	61.26	4.0
Boy of 11	89.68	1.6	57.65	2.8	33.05	2.8
Girl of 5	88.11	1.6	44.54	2.2	32.30	2.1
Boy of 2			39.19	1.9	26.89	1.7
Shelter	1741.16	31.1	568.26	27.9	449.68	29.1
Housing	929.51	16.6	330.00	16.2	270.00	17.5
House operations	569.82	10.2	154.56	7.6	123.90	8.0
Furnishings	241.83	4.3	83.70	4.1	55.78	3.6
Miscellaneous	2258.68	40.4	505.48	24.9	371.16	24.0
Care of person	89.35	1.6	47.15	2.3	39.27	2.5
Leisure activities	487.41	8.7	170.20	8.4	123.76	8.0
Auto upkeep	444.79	8.0				
Carfare	40.00	.7	60.00	2.9	45.00	2.9
Investment	620.00	11.1				
Life insurance			130.00	6.4	65.00	4.2
Medical care	275.00	4.9	75.00	3.7	75.00	4.9
Association dues	36.00	.6				
Education	101.13	1.8	5.13	.3	5.13	.3
Charity	105.00	1.9	18.00	.9	18.00	1.2
Incidentals	60.00	1.1				

Table XXXVIII · Distribution of Expenditures of Individuals, 1935[8]

	AMOUNT		PERCENTAGE	
	Men	Women	Men	Women
Current expenditures				
Food	$440	$392	24.8	22.3
Clothing	147	196	8.3	11.2
Housing	250	254	14.1	14.5
Household operation	95	50	5.3	2.8
Furnishings and equipment	6	19	0.3	1.1
Transportation	124	103	7.0	5.9
Personal care	29	33	1.6	1.9
Medical care	62	59	3.5	3.4
Recreation	171	59	9.6	3.3
Formal education	30	8	1.7	0.5
Vocation	2	2	0.1	0.1
Community welfare	47	72	2.6	4.1
Gifts and contributions to persons outside family	125	243	7.0	13.9
Miscellaneous	22	35	1.2	2.0
Savings				
Life insurance	64	57	3.6	3.3
Retirement fund	61	61	3.4	3.5
Other savings	104	109	5.9	6.2
Total	$1779	$1752	100.0	100.0

[7]C. S. Wyand, *Economics of Consumption* (The Macmillan Company, 1937), p. 462, based on prices in San Francisco, November, 1934.

[8]E. E. Hoyt, *Consumption in Our Society*, p. 323, a study of expenditures of 47 single men and 76 single women, employees of the Federal government.

Table XXXIX · Average Money Income, Expenditures, and Savings of Single Persons in Cities, by Income Class, 1944[9]

Item	Under $500	$500 to $1000	$1000 to $1500	$1500 to $2000	$2000 to $3000	$3000 to $4000	$4000 and Over
Per cent of single persons in each class	18.9	20.8	16.6	17.8	18.9	3.5	3.5
Money income after paying personal taxes	$282	$750	$1245	$1739	$2312	$3511	$7749
Expenditures for current consumption	472	788	1171	1376	1501	2104	4374
Food	179	282	423	471	577	750	1220
Clothing	40	85	148	221	189	259	497
Housing, fuel, light, refrigeration	146	206	264	287	307	370	1003
Household operation	23	53	61	72	72	116	501
Transportation	6	25	80	100	105	271	360
Medical care	42	39	51	55	47	97	145
Recreation	6	15	21	41	42	81	130
Miscellaneous	30	83	123	129	162	160	518
Personal taxes		35	133	244	343	584	1422
Gifts and contributions	14	32	60	132	200	384	532
Net savings or deficit	-204	-70	14	231	611	1023	2843

Estimates of Standard Budgets

For thirty years we have been accumulating material on the budgets of families, usually those on the lower income levels. For many groups we can answer the questions, What do people consume? What does it cost them to consume what they consume? How do they distribute their income among their expenditures? Such knowledge of the cost of living has not, however, been the sole or even the most important objective of these studies. If economic study is concerned, as Alfred Marshall wrote, with "that part of individual and social action which is most closely connected with the attainment and with the use of the material requisites of well-being," then it becomes one of the problems of economics to answer the further questions, What ought people to consume? (that is, What are the material requisites of well-being?) and What incomes must families have in order to provide them? Most investigators have been animated by a desire to determine, if not a desirable budget, at least a minimum budget below which the consumer ought not to live, both for his own well-being and for the ultimate good of his community.

In determining a necessary minimum scale of living we can secure a composite picture of the consumption of the poorest self-supporting group in the community, accept this as a minimum, and take the income which will provide it as the income necessary for self-sufficiency. Or we can work out a standard budget which covers certain prescribed goods regarded as necessary for

[9] *Monthly Labor Review*, January, 1946, p. 5. Preliminary figures.

"health and decency," by calling in experts or pooling the opinions of investigators. It goes without saying that the first problem arises from the fact that, though we may be able to standardize a budget, our families are not standardized. Requirements differ with the size of the family, the age of its members, the sex of the children, the racial background, the occupation. (Obviously those who are working on standard budgets for single individuals are spared much of this difficulty.) The first essential is to create a standard family. For many years this was the family of five, with the ages of the children unspecified. We more commonly now think of a family of four or fewer. What food and how much must such a family have in order to live in health? Students can give partial answers to this in terms of the various physiological constituents of the diet. We come nearer to scientific measures for standard food requirements than for most other items of the budget. What clothes are essential? Is decency to be interpreted as involving self-respect? Who can tell whether the too-expensive hat coveted by the young stenographer will lift her spirit more than a hot luncheon every day or a movie once a week? And further, who knows what effect the lift of spirit will have on her health and efficiency? What is the minimum of acceptable housing? Here, again, the expert has given advice, but not with finality. How much recreation do we need to keep fit? How much must we allow to the doctor or dentist?

Once levels or norms are determined, it is necessary to ascertain the price of the goods which have been included, estimate the minimum income necessary, and find the percentage of it which must be allotted to each class of expenditure. Shall our total income allow for human mistakes or shall we assume an all-wise spender and cook and seamstress at the helm? The figures, of course, will change with every significant change in price levels as well as with any reconsideration of the desirable minimum. If we are interested in what we loosely call an American standard of living, the process will be the same. What norm do we wish to cover by this description? Once that is determined, what income will provide it? Of course consumption levels vary infinitely; but three or four divisions have come to be generally recognized, though the terms used to describe them are not always uniform. These are subsistence level, health-and-decency level, comfort level, and what might be called a luxury level. The National Industrial Conference Board uses "necessary-minimum," "American-minimum," and "minimum-comfort" for the three lower levels. Table XL presents a statement of the income that has been necessary to maintain selected consumption levels at different times; Table XLI shows the distribution among classes of expenditures of four of these standard budgets.

Investigations in connection with the attempt to establish minimum wages

for women in industry (see Chapter Thirty-one) have provided material both on the actual expenditures of single women, already referred to, and on the expenditures considered necessary for existence. A Massachusetts wage board in 1914 placed the maintenance level at $8.71 per week. As prices changed, the boards varied their allowances: from $15.50 in 1920 to $12.50 in 1932, and to $17 in 1945.

The greatest advance in the work of determining adequate standards was made when the New York State Division of Women in Industry and Minimum Wage prepared a standard budget in 1937 (revised in 1943, Table XLII),

Table XL · Estimated Cost of Maintaining a Standard for a Family of Five[10]

INVESTIGATOR	TIME	PLACE	CLASSIFICATION OF STANDARD	TOTAL COST
More	1906	New York	Necessary minimum	$728
Chapin	1907	New York	Necessary minimum	800
J. C. Kennedy	1909–1910	Chicago	Necessary minimum	800
Little and Cotton	1913–1914	Philadelphia	Necessary minimum	1070
Streighthoff	1914	New York	Necessary minimum	876
Board of Estimate and Apportionment	1917	New York	Minimum American	980
Bellevue Hospital	1917	New York	Decent*	1018
Peixotto	1917	San Francisco	Minimum comfort	1476
Ogburn	1917	Seattle	Minimum comfort	1506
Ogburn	1918	Eastern industrial centers	Minimum American	1386
Ogburn	1918	Eastern industrial centers	Minimum comfort	1760
Bureau of Municipal Research	1918	Philadelphia	Necessary minimum	1637
U.S. Bureau of Labor Statistics	Aug. 1919	Washington	Minimum comfort	2262
National Industrial Conference Board	Oct. 1919	Lawrence	Minimum American	1386
Ogburn	Dec. 1919	Two mining towns	Minimum comfort	2144
National Industrial Conference Board	May 1920	Cincinnati	Minimum American	1693
Labor Bureau Inc.	Nov. 1920	New York	Minimum comfort	2633
League of Women Voters	1928	Cincinnati	Minimum requirement*	1674
Council of Social Agencies	1929	Chicago	Minimum normal*	1946
New England Home Economics Association	1931	Boston	Minimum*	1491
Council of Social Agencies	1932	Chicago	Minimum*	1518
Works Progress Administration	1935	59 cities		1260.62[11]

[10]The compilation is that of Miss Kyrk in *Economic Problems of the Family*, pp. 206–207, with slight modification and addition. The classification of scales is that of the National Industrial Conference Board, save in the cases starred, where the classification of the investigator is used. New York, in every instance except that of 1914, refers to New York City. If we take the cost of living in 1923 as the base, the index figure during the years referred to in the table moved as follows, the figure being for December each year:

1914	102.7	1918	166.9	1920	111.0	1929	101.3	1932	74.9
1917	138.3	1919	191.4	1928	101.1	1931	83.2	1935	83.9

[11]This estimate is for a family of four, not five.

Table XLI · Allowances for Chief Items of Consumption in Four Standard Budgets[12]

ITEMS	CINCINNATI (1928)	CHICAGO (1929)	BOSTON (1931)	W.P.A. (1935)
Food	$730	$649	$537	$448.78
Clothing	215	285	241	184.05
Housing	360	360	300	221.87
Household operations	211	280	224	153.80
Miscellaneous	103	252	114	252.12
Insurance and savings	55	120	75	—
	$1674	$1946	$1491	$1260.62

Table XLII · Maintenance Budget for Single Women Living in a Family, 1943[13]

	NEW YORK CITY	NEW YORK STATE
Total	$1205.54	$1211.13
Food	265.73	264.09
Rent	178.56	180.87
Household expenses	156.05	156.16
Clothing	232.05	233.85
Clothing upkeep	18.18	19.47
Personal care	42.97	43.03
Medical care	64.31	63.99
Insurance, savings	41.05	41.11
Leisure activities	117.04	113.80
Other living essentials	89.60	94.76

as a preliminary to the announcement of minimum-wage decrees in various industries. Experts were called to the aid of the division, and standards of food, of housing, and of clothing, based on the latest and best scientific knowledge available, were adopted. More important was the decision that the budget was to be in no sense a charity budget but was to provide for working women self-support and access to the modern conveniences of life. The budget which resulted bears little relation to the Massachusetts budget of 1914.

The Goal of Consumption

We began this chapter by the statement that the purpose of economic activity was the gratification of human wants—such wants, at least, as are expressed in market choices. We surveyed briefly some of the influences which

[12]Kyrk, *Economic Problems of the Family*, p. 208, with the addition of the 1935 figures.

[13]*Cost of Living for Women Workers in New York State, 1943* (New York State Department of Labor, Division of Women in Industry and Minimum Wage), p. 2. This budget makes no allowance for the payment of income taxes and the purchase of war bonds. Leisure activities include payments for recreation, vacations, education, and church.

help to determine these choices and the scales of living which result from the sum total of choices. At this point we are ready to ask two fundamental questions: What is the goal of the family spender or of the individual consumer when he makes his market selection? And is there a social goal for consumption toward which collective efforts should be directed? Probably the individual spender, if asked his purpose, would reply that he wanted "the most for his money," his "most" meaning many different things. The housewife thinks of emulating the levels of others, of taking the easiest way through a day, or of achieving wholesome living for her family. The individual spender may be thinking of momentary pleasure, of impressing someone else, or of planning for the satisfaction of some future need. All these differing possibilities the economist includes when he says that the goal of consumption is to maximize satisfactions. That is, at the moment it is effected, every expenditure is made to bring the greatest amount of satisfaction possible. This does not imply that every expenditure is a wise expenditure or one that in the long run will bring satisfaction or one that involves calculation about differing satisfactions. Calculation may be so distasteful that its exercise would destroy any possible satisfaction which a purchase might promise. Tonight's expenditure may bring tomorrow's headache, but it is tonight's satisfaction that is purchased. Part of the gratification of spending may come from a feeling of extravagance, of having done something reckless; or it may come from impressing the salesman with a fine disregard for money or from shopping in the "right" shop or in the "right" street, though we know we pay for the "rightness" as well as for the article we purchase. Many spenders never take the long view that includes tomorrow's headache; many would scorn any attempt "to get their money's worth" or to "economize"; yet they are attempting, nevertheless, albeit unconsciously, to "maximize satisfactions." We must also remember here that we spend not only money but time and strength as well when we make a purchase and that frequently we save time and effort by our money expenditure just as truly as we acquire goods. Much individual choosing, though it may provide the consumer with momentary satisfaction, certainly does not provide the requisites for material well-being. Indifference, vanity, a desire for the tawdry and showy instead of the durable, or lack of time and strength, all interfere with the achievement of the highest possible satisfaction. The greatest obstacle of all is doubtless ignorance.

Improvement of Consumers' Marketing

Let us disregard, at least for the present, the problems presented by the tawdry and even harmful nature of many of our desires and consider the pur-

chaser for the family who wishes to take the long view of satisfactions, to express her choices in intelligent manner, to achieve for herself or her family as high a scale of living as her income will allow. What chance has she to accomplish this? Mrs. Adams may be ever so conscientious in her desire to spend her husband's wage in such fashion as to give her family the best living attainable on their income level, but no single intelligence can cope with a fraction of the perplexing problems which she must solve in order to accomplish her aim. Among a thousand brands of canned peaches, which will give her the best value? How shall she find her way to the most satisfactory of the hundreds of varieties of canned corn? Are the blankets she examines the best wool or are they expensive merely because of color and a much advertised trade name? Is the jam the family likes made of fruit or coal-tar products? Obviously, she can become an expert judge of quality in but few of the more than forty thousand items to be found in a Sears-Roebuck catalogue. Her choices in the present-day world may be real choices, made with a conscious attempt to think of durable rather than ephemeral values, but she makes them under a handicap of ignorance which must often defeat her. The very names of products mislead her: she must learn that German silver is not silver, that Saxony wool is not wool, and that Linene has no linen in it. She is disillusioned by discovering that brand names do not of necessity imply standard qualities and that frequently there is no system of grading on which she can rely. Baffled by their own inability to judge quality and by the failure of saleswomen to aid them, the dependence of many shoppers is on price alone, but this too often fails to enlighten them. Containers may vary so much in size that price comparisons are impossible. In undertaking the purchase of so simple and familiar an article as tomato juice a housewife may find in a single store eleven available brands, put up in twenty-one containers. By perseverance she may discover that for ten ounces of tomato juice there are actually sixteen different prices, but she has no information as to which of the sixteen is best or in what ways they differ among themselves. Comparable prices, even when they can be ascertained, are no infallible guide to quality. *Caveat emptor* is a vain warning in a system so complex that the consumer has little chance to protect her own interests even when she understands them. What are the guides to which she can turn?

The advertiser stands ready to give advice, but he offers it in order to add to his own profits. Information or instruction which emanates from self-interest must always be subject to suspicion. Advertising may be so controlled that it will not be deliberately misleading, but we cannot hope to turn to it for disinterested assistance. We have, however, numerous agencies such as Better Business bureaus and specialists attached to women's magazines, sub-

ject, to be sure, to more or less pressure from the producer but less self-interested than the advertiser. Schools of home economics and the American Home Economics Association may be still more objective in the assistance they offer. Movements among consumers themselves were greatly quickened in the early thirties. They now take many forms and operate through many agencies primarily organized around other interests, for example, the American Association of University Women and the League of Women Voters. Through such non-profit-making groups as Consumers' Research and Consumers' Union, consumers may obtain the judgment of experts on a host of commodities of daily use. Consumers' co-operatives, the oldest and most important form of organized self-aid, though their chief purpose is the abolition of private profit or the reduction of price by doing away with the expenses of advertising and unnecessary salesmanship, also educate their members in intelligent buying and budget-making. Until recent years the movement has been comparatively insignificant in this country as contrasted with that in European countries, partly because of the greater efficiency of retail marketing in the United States. Its recent growth is noteworthy, though still a very small percentage of the population is attached to it. In 1946 there were in the United States some four million members of the co-operative movement. More than one-half billion dollars' worth of goods were purchased through co-operatives in 1945.

Far more important than any of the foregoing is the work of the government, whose direct efforts to aid the consumer may be roughly classified as (1) informative, (2) protective, (3) restrictive, (4) contributory, though the divisions at places overlap. Of the enormous work of education carried on by the government only a few illustrations can be mentioned here: the Department of Agriculture, through its Consumers' Counsel (which publishes the *Consumers' Guide*), its Bureau of Home Economics, and its Agricultural Extension Service, reaches thousands of consumers. The Bureau of Home Economics of the Federal government, as well as similar bureaus in many of the states, publishes bulletins for shoppers who wish to become intelligent buyers. States, and sometimes cities, go so far as to provide teachers whose business it is to instruct those housewives willing to be taught in regard to the best methods of preserving food, the elements of a balanced diet, or the way to gain the greatest amount of nutriment from a given expenditure.

In the group of protective measures belong acts which forbid the adulteration of food or drugs or the use of misleading trade names, and which provide for the inspection of milk and meat and the grading of foods. Outstanding in this field is the work of the Food and Drug Administration. The intent of all these is that the consumer may know what he is buying and may be assured

that it has been produced under sanitary conditions. We no longer say, as a writer did in 1866: "It is hardly possible to establish in any large community, like Boston, New York or Philadelphia, a system by which unwholesome or adulterated articles would be excluded from the markets." Such a system has been established. Another sort of protective legislation is that which tries to prevent the consumer from being charged monopoly prices. This legislation has as its primary aim the protection of would-be competitors from the monopolist or of the small businessman from the competition of large business or of the fair-minded businessman from his unscrupulous rival, but insofar as it acts to prevent unreasonable prices it benefits the consumer. Legislation to standardize weights and measures or to determine the quantity content of packaged goods also belongs here. Such legislation may be Federal, state, or local. Most of our cities, through a department of markets, exercise an amount of supervision over goods offered for sale which would surprise many of us.

Restrictive legislation, which, strictly speaking, also is for the protection of the consumer, goes further, by making it difficult or impossible for the consumer to obtain certain articles believed to be harmful. Measures prohibiting or limiting the sale of alcoholic beverages and forbidding the sale of narcotics are in this group. With injurious goods the government is not content to see that the consumer knows what he is buying and is then allowed to choose, but actually prevents or limits his buying.

More important than the efforts of the government to protect or restrict the choices of the consumer (for his own good) are those which add to his income. Several references have been made to them, and they will be considered more at length in Chapter Forty. It is here necessary only to call attention again to the fact that most of us have access to a host of recreational and cultural opportunities that we could not purchase for ourselves, that our persons and our property are protected, that we live under healthful and sanitary conditions, that we use streets that are paved and kept reasonably clean. Few of us ever stop to consider how greatly limited would be our enjoyment of many goods if they were not provided for us by collective agencies. The work of the Tennessee Valley Authority offers a striking illustration of what can be done by government action to raise the level of living of a large body of consumers.

Conclusion

In this chapter emphasis has been placed on the difficulties of the family spender, but the fact that her task is not easy does not relieve her from responsibility for her failures. Few buyers know as much as they should know and

could know of what they buy. Market selection is carried on with little reference to much of the useful information which is in existence. There is some justice in the description of women as economic morons who, failing to realize the importance of their function, have given to it little intelligent effort. The spending of money incomes can still be described as "the backward art."

On an earlier page we raised the question of the social goal of consumption. For society as well as for the individual we doubtless should agree that the aim is to maximize satisfactions, but this phrase gives us little enlightenment. Indeed it may raise more problems that it solves. Let us accept it, however, as providing the first test which we apply to our present social results. Do we by our use of the national income attain the greatest possible satisfaction? Individual shortcomings we waive for the time. If all consumers by making the best use of every facility at their disposal obtained the most for their money, would it follow that society as a whole succeeded in obtaining the greatest possible satisfaction from the use of resources at its command?

Obviously any failure to use the resources of the community to the best advantage has, ultimately, an adverse effect on individual consumers. Idle men and idle machines, the misuse of the soil or of mineral or forest wealth, impose on the entire body of consumers an unnecessarily low scale of living. Wasteful production defeats the achievement of maximum satisfaction because it fails to achieve full use of resources. Great inequality in distribution of income, with the inevitable inequality in consumption which accompanies it, also may prevent the achievement of the social goal we have accepted. The argument that great inequality cannot be accompanied by the maximum of satisfaction was developed in Chapter Twenty-nine and does not call for repetition here. It follows from that argument that any activity of the government or of any other agency which reduces existing inequality affects the sum of satisfactions derived from consumption. Thus, problems of minimum-wage legislation, of collective bargaining over wages, and of taxation become in a very real sense problems of consumption.

The most difficult aspect of the wise use of resources, moreover, we have hardly touched upon for the very reason that it is so difficult. The alternatives we have to choose from in spending our money are limited, as has been said, in the first instance by what producers put on the market and behind that by the traditions, conventions, and ideals of the particular society or culture in which we live. But the number and types of satisfaction which are possible to men are much greater than those which are found in any one society, as a study of history or of contemporary cultures, Oriental as well as Occidental, makes clear. The tendency of every society, and the United States is no excep-

tion, has been not to look beyond its own traditions and values; whereas the world has many others, and any comprehensive study of the art of consumption must take cognizance of them all. The art of consumption, moreover, is more than the spending of money; it is the spending of all economic resources, time and energy as well as those in a more material form. The returns which come from our expenditure of leisure time and the ways whereby these returns might be increased have received scant attention. In the United States in the last few years the study of consumption as a study of the use of money resources under the particular set of values which obtain in our society has proceeded a long way, but it has much further to go as a study of the use of economic resources in a broader sense and on a more universal level. For such investigations we need new measures, but most of all we need deeper understanding of the goal of consumption.

CHAPTER THIRTY-ONE

The Minimum Wage

The Need for Minimum-Wage Laws

AMONG the influences tending to reduce the inequalities of distribution and consumption, minimum-wage laws have already been mentioned. Increased productiveness of industry, as was pointed out in Chapter Twenty-five, is the indispensable condition of a general increase of real wages. But increased productiveness does not automatically raise wages in those industries where it occurs, or indeed in industries generally. Wage increases depend also on the bargaining power of labor or on the industrial policy of management. Further, the irregularity of industrial operation, together with the comparatively slow adjustment of the supply of labor, tends to create at all times varying surpluses which result in part-time employment or unemployment. Such surpluses hang as a threat over wage rates.

Unskilled labor suffers most from these surpluses and save under exceptional conditions finds it difficult to attain wages adequate for satisfactory living. Common labor has generally been worth little to employers, and its possessors have had little bargaining power. Groups of workers especially weak in bargaining power have suffered from notoriously low wage rates and earnings, and certain industries—for example, the needle trades and laundries—have paid notoriously low wages. Such "sweated" groups have included women and children and, in this country, Negroes and immigrants. Organization of these workers has seemed impossible. As a result the problems created by the prevalence of inadequate wages have long been matters of public concern.

From the time of the Statute of Laborers, in the middle of the fourteenth century, for three hundred years the government of England took on itself a definite responsibility for wages—at first to keep them down, later to keep them "fair." With the growth of capitalistic agriculture and industry in the eighteenth century the old system of the fixing of wages by justices of the peace broke down; indeed, it is doubtful whether it ever operated with much force. Wage rates were left to be determined by bargain. After the coming of the modern industrial system most students looked confidently to competition to guarantee fair wages and to do all that was possible in raising them. That expectation is not wholly extinct even now. By the 1880's, however, a century

of experience had shaken the faith of those who consulted the facts rather than their own reasoning. By that time trade-unions had made much progress in wage-fixing for organizable workers, but they gave little promise of ability to reach the unorganized group at the bottom of the economic structure. Governments, not only in England but in other countries, once more took up the difficult task of fixing a minimum below which it was socially undesirable for wages to fall.

Positive action began, interestingly enough, in the antipodes. Victoria (Australia) in 1896 enacted a law providing for wage-fixing boards in sweated industries. Great Britain in 1909 passed a comparable Trade Boards Act, to be applied in industries where wages were "unduly low." The next year South Africa passed similar legislation for women and minors in low-wage industries. During and after the first World War the movement spread rapidly. By 1934 France, Germany, Spain, Austria, Czechoslovakia, Hungary, Russia, Norway, Canada, Mexico, Uruguay, Argentina, and Chile had minimum-wage laws. A few set actual statutory minima; most of them employed wage boards to set minimum wages for specific industries.

Early Minimum-Wage Laws in the United States

Notwithstanding the generally high pay of labor in the United States, interest in the question of dealing with minimum wages by legislative action was aroused fairly early. Initial credit perhaps is due to leaders of the Consumers' League, whose study of wage facts convinced them that such action was essential if the wages of women and minors were to be raised to a living level. Stimulated by the British action of 1909, Massachusetts in 1912 led the way by passing a characteristic law. It provided a minimum-wage commission with temporary boards to recommend minimum wages for women and minors in low-paid industries. An employer who refused to pay the rates thus established might have his name published in the newspapers but was subject to no other penalty. Even the Massachusetts standard of civic responsibility proved inadequate to make such a statute effective.

By 1923 sixteen states, together with the District of Columbia and Puerto Rico, had minimum-wage laws. Nearly all of them (1) were mandatory, (2) applied to women and to minors of both sexes, and (3) utilized the machinery of boards to fix wages. In view of our backwardness in other kinds of social legislation the early adoption and rapid spread of minimum-wage laws is interesting. The explanation is to be found partly in the fact that they applied only to groups believed to stand in special need of protection. Except Massachusetts and Wisconsin, every one of the minimum-wage states lay

west of the Mississippi. The District of Columbia received its law from the Congress. Such laws appealed most strongly to the "progressive" sentiment of the newer Western states, not to the more conservative ideas of the great industrial sections, where presumably, if anywhere, they were most needed. The sectional differences suggest the actual divisions of judgment existing at the time and the lack of what could be called any dominant national opinion on the question.

The Supreme Court and the Minimum Wage

The Fifth Amendment to the Constitution prohibits the Federal government, and the Fourteenth Amendment prohibits the states, from depriving any person of life, liberty, or property without due process of law. In 1886 the Court decided that the word "person" for this purpose included corporations. What constitutes "due process"? To the ordinary mind it would seem to mean the usual legal forms; not so to the Court. Every government has police power. As interpreted by the Court, that power enables both the states and the Federal government to do whatever is essential to the public health, safety, morals, and general welfare. What is thus essential? That is a matter of judgment, a question of public policy. If the legislature in enacting a statute has made legitimate use of the police power, then the provision for due process of law has been complied with; if the legislature has exceeded the bounds of the police power of the state, anyone deprived of life, liberty, or property as punishment for violating the law in question has not had due process of law. If the Court, by whatever process, substitutes its own judgment for that of the legislatures as to what is essential to the general welfare and properly included under police power, then it may, however unconsciously, impose its own ideas of wise public policy as constitutional limitations on legislative action.

The Court's treatment of the minimum-wage question illustrates the point perfectly. In Stettler *v.* O'Hara (243 U.S. 629), decided in 1917, an evenly divided Court, with Justice Brandeis not sitting, upheld the Oregon law. The problem was presented again in 1923 in Adkins *v.* Children's Hospital (261 U.S. 525), involving the minimum-wage law passed by the Congress for the District of Columbia. By a vote of five to three the Court overthrew the law. The Congress, holding that unduly low wages for women and minors had injurious influence on public health, morals, and general welfare, had in effect prohibited such wages. The Court, unable to see any such connection, declared the Congress without power under the Constitution to enact such a law. Both the practical and the constitutional issue were clearly presented by Chief Justice Taft in his dissenting opinion:

"I agree that it is a disputable question in the field of political economy how far a statutory requirement of maximum hours or minimum wages may be a useful remedy for these evils [long hours, low wages]. . . . But it is not the function of this Court to hold congressional acts invalid simply because they are passed to carry out economic views which the Court believes to be unwise or unsound."

The Court decided, in effect, that the Congress was without power to pass a law to fix minimum wages for women in the district, no matter how badly, on all available evidence, such a law might be needed. From almost every reasonable point of view the decision was wrong, as is indicated by the minority opinion, by almost the whole body of informed criticism at the time, by the course of events in the years following, and by the Court's explicit reversal of its ruling fourteen years later. The decision applied only to the Federal law in question, but the grounds of decision would equally invalidate similar state measures, and the Court, in fact, overthrew two such laws in 1925 and 1927. As a result, further legislation was suspended and serious efforts for enforcement were all but stopped.

Meanwhile the evils continued, intensified after 1929 by the depression. Public opinion continued to move forward, and in 1933 seven states, among them New York, first among the great industrial states, passed laws carefully drawn to meet the legal objections of the Court. Despite this care, in Morehead *v.* New York *ex rel.* Tipaldo (298 U.S. 587), decided on June 1, 1936, the Court held by a five-to-four vote, essentially on the authority of the Adkins case, that the law was unconstitutional. In his vigorous dissenting opinion Justice Stone cut to the real issue in these words:

"It is not for the courts to resolve doubts whether the remedy by wage regulation is as efficacious as many believe, or is better than some other, or is better even than the blind operation of uncontrolled economic forces. . . . The Fourteenth Amendment has no more embedded in the Constitution our preference for some particular set of economic beliefs than it has adopted, in the name of liberty, the system of theology which we may happen to approve. . . . We should . . . leave the selection and the method of the solution of the problems to which the statute is addressed where it seems to me the Constitution has left them, to the legislative branch of the government."

By its decision the Court had ruled that neither the Congress nor the legislatures of the states had power to protect women against low wages, no matter how injurious the social consequences of inadequate pay might be. The question refused to remain settled on such terms. The very next year it again faced

the Court. In West Coast Hotel Co. *v.* Parrish (300 U.S. 379), decided on March 29, 1937, the law of the state of Washington was upheld by a vote of 5 to 4. Writing the opinion, Chief Justice Hughes stated that the Court had given reconsideration to the whole problem in view of

"The importance of the question . . . and the economic conditions which have supervened, and in the light of which the reasonableness of the exercise of the protective power of the State must be considered. . . . Our conclusion is that the case of Adkins *v.* Children's Hospital, *supra*, should be, and it is, overruled."

Thus handsomely did the Court acknowledge its earlier error.

The Administration of Minimum-Wage Laws

The adverse decision of the Supreme Court in 1923 held up for fourteen years the process of experimentation with minimum-wage legislation and its administration. There was during these years, however, ample opportunity to measure the accomplishments of a purely advisory law such as that of Massachusetts, which seemed in no danger from judicial decision. Reference already has been made (p. 581) to the work of the Massachusetts wage boards, which between 1914 and 1943 recommended wages ranging from $8.71, the first recommendation, to $18 in 1943. Meager as was the living possible under such allowances as these, they nevertheless often exceeded, sometimes in considerable measure, the actual wages paid. By decree of March 13, 1920, the minimum for knit-goods workers was reduced from $15.30 to $13.75. Figures covering weekly earnings of 2294 women in 41 knit-goods establishments from November, 1931, through March, 1932, show

34 per cent under $9	53.2 per cent under $12
41.2 per cent under $10	59.2 per cent under $13
47.3 per cent under $11	65.6 per cent under $14

Two establishments paid no woman as much as $9. On the other hand, one paid none less than $15; one, none less than $20.

As against a recommended minimum of $13.75 in muslin underwear, actual wages of 4111 women employed in 89 establishments between January and December, 1932, were

53.9 per cent under $9	81.6 per cent under $13
69.1 per cent under $11	86.9 per cent under $14

Further evidence is scarcely needed to attest the futility of all save mandatory legislation. Once the barrier set up by the Supreme Court decision of

1923 was removed by the decision of 1937, the states took up the work of adequate minimum-wage legislation with renewed vigor. By December, 1939, twenty-six states, including a large number of those industrially most advanced, together with the District of Columbia and Puerto Rico, had such laws, the majority of them relating to the work of women and of minors of both sexes, though several industrial states later extended protection to men. New York immediately re-enacted its law in improved form. As it now stands, it is one of the best of such measures on our statute books, and we therefore shall sketch its main features.

It declares the public policy of New York to be that the wages of women and minors should be sufficient to provide adequate maintenance and protection of health. If the industrial commissioner on investigation finds wages of such persons to be inadequate in any industry, he is required to appoint a wage board, consisting of equal numbers of representatives of employers, employees, and the public, which shall report on establishing minimum wages. In recommending a minimum wage a board may take into account (1) the amount sufficient to provide adequate maintenance and protect health, (2) the value of the service rendered, (3) the wages paid in the state for work of like or comparable character, and (4) what the industry is able to pay. The commissioner must furnish the board with information on wages and all other relevant matters. To aid him in doing this, the minimum-wage division of the state department of labor has prepared and keeps constantly current factual information on the cost of living of working women at a standard of adequate maintenance and health.

If the commissioner, on receiving the report of a wage board, accepts it, he must grant a public hearing on it, giving all persons interested a chance to testify. If he thereupon approves the report, he must issue a directory order setting the wage rates recommended. If at any time after three months he is of opinion that the order is being violated, he may, after a hearing, make it mandatory. He has power, after a hearing, to publish the name of any employer violating an order, and such employer by further violation renders himself liable to fine and imprisonment. It will be noted that the whole procedure is carefully safeguarded.

The first wage board was set up in the laundry industry, in which not only employees, but also employers desiring protection from wage-slashing competitors, wished to have a minimum wage set. The division of minimum wage had already established the cost of adequate maintenance at $1058 for a woman living at home and $1192 for others (about $20 and $23 a week respectively). The board found half the laundry employees in New York City earning less than $14.57, and 15 per cent, less than $12 ($757.64 and $624 a

year if no time was lost). Median earnings outside the metropolitan area were $13.19, while 34 per cent of the workers earned less than $12. The cost of living was found to be as high in upstate cities as in New York City, "lower living cost" in the former actually representing a lower living scale, which the board declined to accept as a permanency. After taking into account all the matters required by the law, the board reported that, though it found it impossible to fix a minimum wage sufficient for adequate maintenance, it proposed to take a long stride in the protection of the lowest-paid workers. To do more immediately might seriously injure the industry.

It accordingly recommended a minimum hourly wage of 35 cents in Zone A, the metropolitan district; 32 cents, rising to 35 cents on January 1, 1940, in Zone B, the upstate urban district; and 30 cents in Zone C, the rural district. The minimum weekly wage recommended was $14 in Zone A, and $12.80, rising to $14 on January 1, 1940, in Zone B. The minimum wage recommended, it will be noted, would provide, even with fifty-two weeks' employment, only about two thirds of the amount which had been deemed necessary for adequate maintenance. On receiving the recommendation the commissioner conducted public hearings at which, according to the department's news release, "representatives of employers, workers, and the consuming public" urged the commissioner to issue the directory order at once.

This order covered 22,200 women and minors in about 2200 laundries throughout the state. From March 14, 1938, as the department pointed out with some pride, for the first time in any state or industry in the United States employees were guaranteed a minimum weekly wage. The department's comment continues:

"It is significant of the extent to which New York State sentiment, generally, favors an assured bottom to wages that the Laundry Wage Board, consisting of representatives of employers, employees and of the public, unanimously agreed on this provision as a step toward economic stability for both employers and employees."

Three months later, by the same procedure, a minimum wage of $16.50 for a 45-hour week in beauty shops was set. Rulings for other industries have followed. On the basis of a survey made by the Division of Women in Industry and Minimum Wage in 1943 the amount needed by the woman living at home was raised to $1599.91. This included allowances for taxes and $159.79 for war bonds. Women who lived in New York City needed slightly less than those in other cities of the state.

We have described in detail the excellent procedure under the New York statute because it illustrates the careful, detailed work necessary to successful

administration of a minimum-wage law, and because it suggests the limited possibilities of immediate action under such a measure. Wages in any industry at any time are the resultant of many forces, varying greatly among different establishments and localities, and intimately related to the price of the products the industry turns out. If we take the wages of all the industries in any considerable town, much more those of an entire state, we are involved in an intricate web of wage-price relationships almost impossible to unravel. To undertake, therefore, to set up a blanket minimum wage by legislative fiat, unless it is set so low as to mean nothing, would be to invite industrial chaos and to court almost certain failure. So much the more, to undertake to raise wages generally by legislative and administrative action would be the extreme of economic folly. Minimum-wage laws, as foreign experience indicates, if intelligently drawn and administered, can apparently do something to raise the wages of some of the more helpless workers. No informed student will expect from them results in more than a limited part of the wage field. Probably the hopes of their intelligent advocates have nowhere been better stated than by former Industrial Commissioner E. F. Andrews of New York:[1]

"We know that in many instances a first wage board for an industry will not be able at once to bring wages up to the standard here set [that of adequate maintenance]. We expect, however, that with the recognition of the situation as we have found it, there will be a gradual rise from present levels to real adequacy."

The Fair Labor Standards Act

The foregoing paragraphs should have indicated that the course of wage legislation is beset with pitfalls both legal and economic. Among the economic puzzles, that of its effect on competition is ever present. It is true that conscientious laundrymen of New York welcomed the minimum wage because it relieved them of the competition of less scrupulous employers. If, however, industries are not local but cross state lines, the establishment of minimum wages in one state subjects the industry of that state to competition from non-minimum-wage states. The inherent difficulties of raising labor standards by separate state action, suggested by this statement, gave rise to the demand for national minimum-wage legislation. The reasonableness of the demand is plain enough. The area of regulation, we long since learned, needs to be coterminous with the area of competition. But the problems involved in any attempt at nationwide minimum-wage action are appalling. The fierce struggle

[1]Quoted by Freda Miller in *Monthly Labor Review* (March, 1938), Vol. XLVI, p. 578.

of representatives of the South to retain the wage differential in favor of that section is only a single example. Yet the pressure to "put a floor under wages and a ceiling over hours" became so great that the Fair Labor Standards Act was passed in June, 1938, to go into effect four months later. Like the Social Security Act, to be considered later, it is important in principle, however defective in detail.

Under this act the Federal government seeks to supplement state action and thus bring some pressure to bear on the states most backward in minimum-wage legislation. The act applies, properly in economic as well as constitutional theory, to industries engaged in interstate commerce (a concept greatly widened by recent decisions of the Supreme Court). Workers employed in local industries are subject only to state regulation. The statute sets up in the Department of Labor a Wage-and-Hour Division, with an Administrator, who is a presidential appointee of wide powers. He is authorized to select for each industry engaged in interstate commerce an industry committee to serve essentially as a wages and hours board. It must consist of equal numbers of representatives of employers, employees, and the public, with due regard to geographical regions.

The act in express terms provided for a universal minimum wage for those employees in interstate commerce, or in the production of goods for interstate commerce, of 25 cents an hour during the first year, 30 cents during the next six years, and 40 cents thereafter unless the Administrator sets a lower figure, which may not be below 30 cents. Similarly, the maximum work week was to be 44 hours during the first year, 42 during the second year (not during the next six years), and 40 thereafter, in each level, with payment for time and a half above these limits. Numerous exceptions applying to special industries and conditions have been widely criticized. Some doubtless call for correction; others are soundly based. All were probably necessary in order to pass any act at all.

As a related though a different problem, a solution of the vexing evil of child labor is attempted in the act, which prohibits the shipment in interstate commerce of goods produced by the use of "oppressive child labor." Such is the employment of any child under sixteen (except by his own parents in an occupation other than manufacturing and mining) and of any person between sixteen and eighteen in any occupation found by the Chief of the Children's Bureau to be detrimental to such young persons. The Children's Bureau has the administration of these provisions.[2]

[2]Child actors in motion pictures or theatrical productions and children in agricultural labor outside the period of required school attendance are exempt from the provisions of the act.

Each industry committee must recommend to the Administrator "the highest minimum wage rates for the industry which it determines, having due regard to economic and competitive conditions, will not substantially curtail employment in the industry." Provision for regional differences is found in the requirement for classifications in each industry, and for the highest practicable minimum wage, not to exceed 40 cents, in each classification. A committee may not recommend any discrimination in wage rates solely on a regional basis. Instead it must take into account competitive conditions as affected by transportation, and living and production costs. The heart of the measure is perhaps to be found in these vague provisions, whose actual force will have to be worked out in practice, undoubtedly with sharp contest. If the Administrator approves the recommendations of the committee, he must after a hearing put them into effect. Otherwise he may call for reconsideration, even at need creating a new committee. An employer who fails to pay the minimum wage prescribed is liable to his employees in a civil suit for a sum double the unpaid minimum.

In view of the low minima contemplated and the numerous exceptions provided by the law, its immediate practical importance was not great. It was estimated that not more than 200,000 workers in the beginning found their pay at all affected. Such failure to attempt radical changes at the start is no criticism of the law; rather it indicates good sense in framing it. If it is indeed possible—as it is highly desirable—to operate central minimum-wage machinery successfully over a country as large and industrially varied as this, certainly the only way to get it into operation without disaster was by a process of cautious experimentation. The same thing is to be said of the countless wage and hour adjustments that needed to be made.

On the other hand, it was a distinct gain to impress on the public mind the idea that there are certain standards, even low ones, below which wages should not be allowed to fall, and a gain to embody that idea in Federal law. It was a gain to uproot the idea that whatever wages may be they are inevitable because they are "fixed by demand and supply." It was a gain to be reminded that we could do something about it if we cared to take the trouble. It was a gain to have in operation machinery by which the wages most in need of adjustment might be raised at least slightly, and by which conceivable existing differentials might in time be somewhat reduced. It was a distinct gain to have on the books a minimum-wage law that applied to men as well as to women and children. We are abandoning the myth that the individual adult male still can take care of himself, even in the Niagara whirlpool of modern industrial forces.

The increase in the cost of living which had taken place by the close of the

war rendered the 40-cent minimum inadequate and made it abundantly evident that if the act was to continue in future to be of any practical importance the minimum rate must be made flexible, in order that it might be adjusted without difficulty as the cost of living changed, and that the coverage of the original measure must be increased to include seamen, fishermen, and those engaged in the processing of agricultural products.

Economics of the Legal Minimum Wage

In the preceding discussion we have given little attention to the economics of the legal minimum wage. That wage has been criticized because it will cause the unemployment of workers too inefficient to earn it. True, but in each case how many? What does experience show about actual displacement? Apparently it looms larger in the minds of theorists than in actual practice. It is urged that the better-paid workers are injured because the minimum tends to become the maximum. Experience belies the argument. Workers, it is declared, cannot be paid more than they are worth. Of course not; but what are they worth? The very process of raising wages may in some conditions raise costs and prices, making their labor "worth" more. It may do so at the expense of consumers and of unemployment. Once more, how much? Such questions are to be answered not simply by general reasonings, needful as they are, but by intelligent judgment based on a knowledge of the facts of particular cases. Such knowledge good wage boards will get; such judgments they will make. Already comparative studies indicate that the state laws have not caused a substitution of men for women or increased unemployment in the industries to which they have been applied.[3] On such a basis progress toward a better wage structure is possible.

There seems to be no evidence that the application of the minimum-wage principle as tried in this country decreases the total production of income. If not, then its result is to alter distribution, however slightly, in favor of the poorest wage-receivers as against better-paid wage-earners and the propertied classes, thus increasing in so far the utility of the goods produced. But the argument for the minimum wage goes beyond this. Labor previously sweated, it is urged, if better paid becomes more efficient and so produces more. The wage-cutter's main weapon is taken from him, and business passes more largely into the hands of those whose competitive power is based on skill in management rather than on the meaner arts of beating down labor. Thus the minimum wage tends to increase, not to lessen, production.

[3]See *The Effect of Minimum-Wage Determination in Service Industries, Bulletin No. 166*, Women's Bureau, United States Department of Labor.

We prefer to rest the argument for minimum-wage legislation on its usefulness as a device to help in preventing anyone from being worked for starvation wages and thus to aid in working out a better wage structure. We have an industry already productive enough as a whole to pay all workers decently, and growing constantly more productive. We need now to shape our social arrangements so that future increase of production will go to those who need it, not to those who do not. A minimum wage may be one among such means.[4]

The minimum wage may be combined with a process of general wage-fixing between strong unions and employers' associations. Such a combination would mean that wages generally had ceased to be determined by competition in the old sense of individual competition of workers. Wage rates would become prices administered by responsible agencies—in the one case government, in the other presumably private. Such arrangements present plenty of economic difficulties. Nevertheless, it is in their direction that we appear to be moving. As yet we are without sufficient experience to make dogmatic statements about the effect of wage rates thus established on unemployment, on general prosperity, and on the whole problem of unequal distribution of income.

[4]The following quotation may prove suggestive.

"In each country there should be fixed a limit below which no wage should fall. This minimum should be based on the capacity to pay of industry in general. In practice, the most satisfactory method of determining the minimum would be to fix it at a given proportion, *e.g.* 80 per cent, of the average wage paid to unskilled workers in a number of the chief industries of the country. Since the minimum wage is to be based on the capacity to pay of industry in general, changes in the productivity of industry should be accompanied by corresponding changes in the minimum wage. These adjustments would be made by means of an index of per capita material production."—J. H. RICHARDSON, *A Study on the Minimum Wage* (Adelphi Company, 1927), pp. 96–97

CHAPTER THIRTY-TWO

Social Security

The General Problem of Security

LAWS establishing minimum wages are by no means the only controls and restrictions laid upon the distribution of income. Workers are concerned with the size of their pay checks; they are also eager for assurance that they will continue to receive them. Certain of our controls relate to regularity of income, not amount. Under the social arrangements of the preindustrial days the worker, unless he was an outcast, enjoyed a certain assurance of continued livelihood, however meager it might be. With capitalistic industry and increasing freedom security diminished. The old relations of the worker to his work were displaced by the cash nexus. Wage payments left men free to move, but the freedom involved risk. Conditions of industry in capitalistic countries have tended to increase the insecurity of the worker whose livelihood depends on his weekly wage. To something like four fifths of Americans the cessation of a wage, even for a short time, is a matter of anxiety; to many of them it means immediate and drastic lowering of the scale of living.

Wages may be suddenly and indefinitely interrupted (1) by illnesses or by industrial accident at the very time when an added burden of doctors' and hospital bills must be met; (2) by the death of the chief wage-earner, which may leave a mother and dependent children wholly without income; or (3) by unemployment, which the worker can neither foresee nor prevent, and which may stop income completely, sometimes for considerable periods. Even at best most workers cannot make adequate savings; they therefore look forward with dread to an old age in which they earn nothing. For the great body of propertyless workers security disappeared with the growth of industrial capitalism.

Consequently Western industrial countries have been busy for more than seventy years devising social means of protection against the interruptions to family income just suggested. The United States, in spite of unusual irregularity in workers' income, has lagged by decades behind Europe in such measures. The reason has been in part the comparatively generous pay of labor and the ease with which the worker got a new foothold if for a time he

lost his place in the industrial world; in part, perhaps, a peculiarly intense individualism arising out of the same circumstances. Today, under the sharply changed conditions of the twentieth century, we are rapidly following European precedents, though by our own methods. We shall not try to trace the development of social-security legislation in foreign countries, but shall sketch briefly what has been done here, giving special attention to the Social Security Act of 1935, which definitely marks a new conception of individual and governmental possibilities and responsibilities.

Traditionally we have relied on individual self-help, not on government action. Not only have we preached the virtues of individual initiative, self-reliance, and personal thrift, but we have felt that there was something dangerous, not to say positively wrong, in any use of governmental power that might conceivably lessen self-dependence. Government might indeed subsidize manufacturers with protective tariffs or railroads with cash and millions of acres of land, because that stimulated individual initiative (in the form of giant corporations); but except for poor relief, which went only to the hopelessly inefficient, who were presumed to be already without the virtue of independence, we fiercely resented government help to the weaker members of society, fearing that somehow they would be injured by it. Where it became plain that individual action could not suffice, as in provision against death, we depended on private insurance companies, not on government agencies.

Workmen's Compensation

In fact our first venture into the field of social security was largely by the private-insurance route. From the beginning of the machine era industrial accidents have taken frightful toll of life and limb. With the increasing size and speed of our industrial operations and our reckless disregard of life our accident record has always been a bad one. Figures deserving the name we have not had, but one distinguished authority has estimated a total of 25,000 deaths, as many permanent disabilities, and about 2,000,000 temporary disabilities lasting more than three days as resulting annually from industrial accidents in the United States. Since the first World War employers have taken great interest in safety work; nevertheless, "American accident rates are still in many cases considerably above those of the industrial countries of Europe"—a moderate statement.

For long the worker disabled by accident was dependent on the good will and generosity of the employer. If the worker carried a damage suit to the courts, the judge, relying on precedents drawn from the common law, awarded him recompense only if he could establish negligence on the part of the em-

ployer. In his defense the employer might maintain that the worker knew and assumed the risks of the industry when he accepted employment, or that he himself had contributed to his own injury by carelessness, or that the mishap was the result of the negligence of a fellow servant. To establish any one of these contentions, all of which suggest the conditions of the small shop of pre-machine days, freed the master from responsibility for the accident, and no damages could be collected by the injured workman.

The first statutes passed, called employers' liability acts, followed the common law. The victim of an accident might sue and could collect damages if it could be proved that the employer was responsible. But the right was of little practical value; for the employer could invoke these three legal defenses: the doctrine of the assumption of risk; the doctrine of contributory negligence; the fellow-servant doctrine. Relying on one of these, he usually won the suit; but in the rare instances where he did not, the worker sometimes got an excessive award from a sympathetic jury. Even so, his award was likely to be eaten up by legal costs, leaving him little by way of recompense. The whole system was unsatisfactory to employers and employees alike.

Gradually state legislatures so modified the rigors of the common-law doctrine that the laws assumed a different character, but the modifications failed to meet two fundamental defects in the system. (1) In modern industry many accidents are not attributable to negligence on the part of anyone. For such accidents the worker had no possible redress. (2) Workers ought not to be subjected to the difficulties, the delays, and the expenses of court procedure in order to obtain recompense for injury. To meet the two criticisms suggested here, laws of a completely different character were needed and eventually were passed, the change in emphasis being suggested by the name applied to them. They were compensation laws, not liability laws.

Under the new system the worker is supposed to receive compensation from the employer (at definitely prescribed rates for various injuries) for all accidents incurred in the course of employment, unless they are caused by his own gross and culpable carelessness. There is no suit at law; there is no question who, if anybody, is responsible; there is no problem of the amount of compensation. Establish the fact of injury and compensation follows automatically. Recompense for industrial accidents has thus passed through three stages: the era of common law; that of employers' liability laws, which in the beginning used the philosophy and the defenses of the common law; and, lastly, that of compensation laws, under which the worker is virtually insured against accident. The first American law of this sort was passed by the Congress in 1908 for Federal employees. The states soon followed with laws protecting industrial workers generally. By 1932 there were fifty-one such

measures on the state and Federal statute books. They vary widely in coverage, method, and adequacy, but their essential principle is the same.

We do not discuss the problems of administration or the adequacy of compensation. Unavoidably, the laws are not unduly generous. Total disability benefits for the most part run from 50 to $66\frac{2}{3}$ per cent of wages. For total permanent disability only eleven states provide such benefits for life. Twenty-four of them limit total payments to $8000 or less; most limits lie between $4000 and $6000. A comparison of these sums with possible wage losses is startling. All states but one require employers to insure their compensation obligation either with a state fund or with private companies; so the actual administration of compensation is in the hands of one or the other of these agencies. We have made only halting beginnings in applying compensation laws to occupational diseases, like silicosis, which, quite as definitely as accidents, are the result of occupational hazard. Such extension is reasonable and will doubtless come with time.

It is the change of theory involved in compensation legislation that is significant. Accidents cease to be regarded as the fault of individuals who are therefore penalized by having to bear their expense. Instead it becomes part of the cost of production, just like the cost of materials. Like that cost it must be passed on to consumers in the price charged for the product. Consumers, under this view, have a social responsibility for meeting all costs occasioned by their demand, and the state sees to it that they meet that responsibility. By seeing that compensation is paid for accidents the state guarantees the right of the worker to a certain security of income.

Health Insurance

If the worker is to be protected against loss of income arising from accident and industrial disease, why not against that from ordinary illness? There is no answer. One seems as reasonable as the other. Though ordinary illness is not a part of the costs of a particular industry, it is for the worker definitely a greater hazard than industrial accident. Consequently industrial countries of Europe long ago began experimenting with health insurance. To quote the report of the Committee on Economic Security before the passage of the Social Security Act:

"Other countries of the world have had experience with compulsory health or sickness insurance applied to over a hundred million persons and running over a period of more than 50 years. Nearly every large and industrial country of the world except the United States has applied the principle of insurance to the economic risks of illness."

In applying that principle such countries have provided both for the payment of sickness benefits and for the supplying of medical care, though seldom going to the extreme of "state doctors." In the presence of such experience it is a striking fact that only one state in this country (Rhode Island) has yet made even a beginning toward health insurance. The experts of the Committee on Economic Security prepared a tentative plan of health insurance, but the committee did not venture even to submit it to the Congress. The extensive studies of the Committee on the Costs of Medical Care and other investigations since 1930 have clearly shown the intimate relation between income, on the one hand, and the amount of illness and the adequacy of care, on the other. In the paragraph following we summarize a few of the outstanding disclosures.

Families with income under $1200 experience annually an average of 8.9 days of disability per person. As income rises illness decreases, and the corresponding figure for families above $3000 is only 3.8 days—less than half the illness found in the poor group. Though the poorer people suffer more illness, they get less medical care. No less than 47 per cent of all the individuals in families below $1200 go through the year with no medical, dental, or eye service. The figure for families between $3000 and $5000 is only 33 per cent. Estimates of the cost of furnishing adequate medical care to a family of four range from $100 to more than $200; and all families up to $5000 spend on the average about 4 per cent to 5 per cent of their income for such care. At the best, two fifths of our families have incomes not above $1500, and three fifths not above $2000. A large fraction of our people are too poor to pay for adequate care and do not get it. Further, illness does not occur "on the average," but with entirely unpredictable irregularity in any particular family. Hence even families of comfortable income are likely to be seriously embarrassed by the heavy costs of long and serious illness.

Facts like these, brought to attention largely by the efforts of socially informed physicians themselves, are rapidly producing a serious effect on public opinion, both within and without the medical profession. Many promising experiments in better economic organization of medical service (so-called "group medicine") are going forward. The case for application of the insurance principle seems irrefutable, and the argument for increased social aid in the provision of medical care for the poorer families and communities appears no less cogent.

The National Health Conference, assembled in Washington during July, 1938, under government auspices, served both to point out the needs of our present situation and to indicate the purpose of the government to push forward in the immediate future a far-reaching public-health program designed

largely to provide for a more adequate distribution of health services, especially to the poorer groups of the population and to the rural districts. We may well conclude our discussion by a brief summary of portions of a report made in 1938:[1]

Each study adds additional evidence that the receipt of medical care depends largely on income and that people of small means or none at all, though having the greatest need for care, receive the least service.

A large proportion of the population—certainly one third and perhaps one half—is too poor to afford the full cost of medical care on any basis. . . . The one third of the population which is ill-nourished, ill-housed, ill-clothed, is also badly cared for in sickness and for the same reason: because income is too small.

The problems raised by the cost of illness present two clear-cut needs: (1) For people with incomes ordinarily self-sustaining in respect to other essentials of living (food, shelter, and clothing), health services must be made more extensively available through measures that will lighten their costs. . . . (2) Larger financial support must be provided for those who are without income.

Finally, it may be noted that what has been said regarding the unequal distribution of the costs of medical care applies also to the loss of wages suffered because of disability or permanent incapacity of the breadwinner. Provision through social insurance, or through systematic public assistance, or through both devices, is urgently needed to bring security of income against this common risk which threatens people of small and precarious earnings.

There seems to be every reason for anticipating that the United States will soon follow the European example by adopting a system of health insurance of some kind. This does not mean that we face the bogey of "state medicine." It does mean that if our physicians would avoid that undesired result they should not stubbornly resist the inevitable economic reorganization of medical service, but in view of their knowledge of the technical and personal problems involved should co-operate heartily with those who are seeking an American solution of the economic difficulties that must be faced if our health service is to be made adequate to the needs of all the American people.

Survivors' Insurance (Life Insurance)

The death of the chief wage-earner may put an abrupt end to income and plunge even a well-to-do family into destitution. To meet this contingency the

[1] *A National Health Program*, Report of the Technical Committee on Medical Care; submitted by the Interdepartmental Committee to Co-ordinate Health and Welfare Activities.

private business of life insurance has grown up, a business more highly developed in the United States than anywhere else in the world. In 1937 American legal reserve companies had in force 109.6 billion dollars' worth of business, which amounts to about 60 per cent of all the life insurance in the world. Figures like these are sometimes used to suggest that our whole population is adequately covered. The fact is far otherwise. Sixty-four million Americans are insured, but the ordinary wage-earner is practically uncovered. The policies of so-called industrial insurance, totaling 18.8 billion dollars (1937 figures), represent that most pitiful of all the devices of self-respect, burial insurance. These policies average only $200 each; they are carried, at great cost, by millions of working people who are striving by dint of weekly payments to escape that ultimate horror of working life, a pauper's grave. Nor has the group insurance taken out by many large concerns by any means met the situation. At the end of 1937 about 14 billion dollars' worth of such insurance was in effect. Only the employees of strong companies, at best, can be thus covered. Even American life insurance has not been able to bring protection to the great body of wage-earners. No voluntary system can do so. Consequently in other countries compulsory life insurance has spread widely. "By 1931 fourteen of the foreign countries had legislated survivors' insurance for their general industrial population, several more requiring such insurance of selected industrial groups."[2] Like old-age pensions, such insurance is usually financed by payments from employers and employees, sometimes with government aid as well.

In this country, on the contrary, we long limited public action in behalf of this group to noncontributory mother's pensions, granted as a matter of need and not of right. Our first law was passed in 1911, and twenty years later every state had a measure of some kind. Mrs. Armstrong has characterized the legislation thus: "As is customary in America, the laws have been enacted in response to sentimental appeal and political pressure; and in many cases it has been left entirely to Providence to provide the funds for carrying out the promises made by the measures."[3] In dealing with this problem, as well as with sickness among the great body of industrial workers, we have not up to this time learned much from foreign countries.

In summarizing our legislation in these three fields we may note our slowness to do anything at all, resulting from the fortunate position of the industrial worker, our tradition of self-help, and our unwillingness to recognize "class distinctions." We may note our reliance on private instead of government

[2]Mrs. Barbara Armstrong, *Insuring the Essentials* (The Macmillan Company, 1932). p. 451.

[3]Ibid. p. 444.

agencies, in accordance with our historic practice and tradition. We may note the high development of those private agencies and their natural resistance to new arrangements that they think may in any way jeopardize their own interests. The history of the insurance companies and of organized medicine is in point. We may note the neglect of foreign experience and the consequent choosing sometimes of worse rather than better methods when we do attack some aspect of the problem of insecurity. We may note, finally, our reliance on state, not Federal, action, in accordance with our historical practice and constitutional tradition. From the present-day point of view these things may appear occasions for criticism; without question they do not fit present-day American economic and social conditions. It must be remembered, however, that they did fit the conditions, the practice, the traditions, and the almost unbroken modes of thought of our earlier history. In that sense anything else was in fact "un-American," with all that that opprobrious word implied. There was no clear perception of the change in our country and the consequent necessity for changed modes of action. In its recognition of these changes lies the significance of the Social Security Act of 1935.

The Social Security Act

The business prostration and the devastating unemployment of the depression years following 1929 drove home to Americans the changes that had taken place in our economic life. Though they did not understand them, they were willing and eager to do something about them if possible. An alert administration at Washington seized the opportunity to procure enactment of a long overdue measure for social security against unemployment and old-age destitution.

The occasion was utilized also to bring improvement in social services for various groups already looked after in some fashion by most of the states. We shall glance at these services before dealing with the most important part of the act. Titles IV, V, VI, and X provide, respectively, for grants to states for aid to dependent children, for maternal and child welfare, for public-health work, and for aid to the blind. The grants are to be made only to states having approved plans for the services in question, though this is not formally true of public-health work. The system of grants-in-aid, a long-tried device, is thus used both to increase the quantity of such services rendered by the states and to enable the Federal government to bring pressure to improve their quality. When the act was passed, assistance for the aged and for the blind was available in less than one third of the counties of the United States. Ten years later the former was offered in every county in the country; the latter,

in all but three. Yet these purposes together have constituted only a minor part of the aims of the Social Security Act.

The significance of that measure lies in its provisions for unemployment insurance and old-age pensions. In considering these provisions we must remember the federal character of our government and the historical importance of the states. Moreover, at a time when economic development is forcing us to think and act nationally we must remember that efficient administration requires a proper degree of decentralization. In order to work out over an area of three million square miles the problems of a more or less unified industrial economy, we shall need the utmost ingenuity of political and administrative management. The Social Security Act is scarcely less interesting in this respect than in reference to its basic economic principle, the social provision of income for the industrial population in two important situations in which the impotence of individual provision has been demonstrated.

The act establishes a Social Security Board of three members, appointed by the President for six-year terms and now a division of the Federal Security Agency. The board has the responsibility of administering most of the act except for the handling of funds, which is the task of the Treasury. Through its power, in connection with grants-in-aid, to refuse approval to state systems of administration the board is in a position to exercise great influence over the various social-security activities mentioned in the second paragraph preceding, and also, as will appear, over unemployment insurance, while it has exclusive control of old-age pensions. In addition, it is given the important duty of "studying and making recommendations as to the most effective methods of providing economic security through social insurance and as to legislation and matters of administrative policy concerning old-age pensions, unemployment compensation, accident compensation, and related subjects." It has thus been made a sort of central research and planning agency in the whole field of social security.

Unemployment Insurance

Under the act unemployment insurance has been provided for by a tax on employers of eight or more persons, at the rate of 3 per cent on their pay rolls. This tax does not apply to wages paid for agricultural labor, domestic service, or labor performed for government or for religious, charitable, educational, scientific, or literary agencies not operated for profit. Against this 3 per cent tax an employer is credited with the amount of any payment he may make into an approved state unemployment fund, up to 90 per cent of the Federal

tax. A state may thus impose on its employers an unemployment insurance tax of 2.7 per cent on pay rolls without laying on employers of eight or more persons any burden whatever in addition to the Federal tax. This provision was designed to induce the states to set up systems of unemployment insurance approved by the Social Security Board and financed by an employers' tax of at least 2.7 per cent on pay rolls. Wisconsin, always at the fore in progressive legislation, was the only state to pass an unemployment-insurance act before the pendency of the Federal measure. By July, 1937, all the states, together with the District of Columbia, Alaska, and Hawaii, had such approved laws. The speed of enactment is notable.

Under the act and the amendments passed in 1939 the states are required to keep all money received in their unemployment funds (the pay-roll tax) in the Federal Treasury, where it is held as a single Unemployment Trust Fund invested in Federal securities. Because of the reduction of unemployment and the increase in pay rolls during the war years the state credits at the end of the first ten years amounted to 7 billion dollars. Each state draws against its own account for the sole purpose of paying unemployment benefits, the Federal government meeting all expenses of administering state systems out of the one tenth of the pay-roll tax that it retains. States must pay benefits through public employment offices or other approved agencies—an effort to strengthen the public employment services. No state may deny compensation to any worker who refuses a job offered to him (1) as a strikebreaker; (2) at less than going wages or working conditions; or (3) under a yellow-dog contract.

Within these limits each state is at liberty to set up whatever system of unemployment insurance it prefers. The act may be thought of as practically requiring some state system, as setting up certain minimum standards, and as providing for a measure of Federal supervision, but otherwise leaving administration to the states. As a matter of fact, there is a good deal of variation in coverage. Nearly half the states extend it to small concerns, sixteen covering those with one employee. Some cover industrial groups exempted in the act. All but three follow the indicated tax rate of 2.7 per cent on pay rolls. Thirty-one pool the reserves of all employers; some provide separate employer-reserves, hoping thus to encourage stabilization of employment; some combine both methods. Benefits likewise vary. The usual rate is 50 per cent of weekly earnings—with a maximum in ten states of $15 a week. Six states have a maximum of $24, with additional allowance for dependents. In 1937 no eligible worker in any state received payment for more than 20 weeks; nine years later five states had extended the period to 26 weeks, in six payments continued from 21 to 26 weeks. In the early days a waiting period of at least two weeks

was required by all states before payments could begin. By 1945 thirty-five states had reduced this to one week, and one state required no waiting period whatever. The volume of employment covered on June 30, 1937, was estimated at nearly 21 millions; eight years later, at 30 millions. No one should exaggerate what can be accomplished by any system of unemployment insurance. Nonetheless, though insurance must not be regarded as a cure for unemployment, the modest degree of income thus assured to millions of workers is highly important.

In order to establish the system, Federal power was ingeniously used to induce the states to set up the necessary machinery, and the exercise of that power was fully sustained by the Supreme Court in Carmichael *v.* Southern Coal and Coke Co. (301 U.S. 495) and Steward Machine Co. *v.* Davis (301 U.S. 548), decided on May 24, 1937. Many improvements were accomplished as a result of the experience of the first ten years. Other changes are needed, foremost among them an increase in coverage which would bring the 13 million workers in uninsured industries under the aegis of the law.

After nearly ten years of experience the administrators of the law concluded that "Unemployment compensation has disproved fears once expressed that workers will not work if they are entitled to benefits. It has still to prove to what extent workers can rely on these benefits without resort to public aid when economic conditions are less auspicious. . . .

"It is the most complex of the social insurance programs to plan and administer. It will always be subject to controversy because decisions on paying or denying benefits affect mobility of labor, even the volume of unemployment, and the ability of unemployed workers to maintain their skills."[4]

In the view of its advocates the value of unemployment insurance is not limited to providing some income for workers during ordinary periods of unemployment. By doing so, they maintain, it will do something toward stabilizing the flow of purchasing power and in so far toward regularizing the operation of business—an end of importance to everyone, not to employees alone. To anyone remembering the modest size of possible payments it will be clear that such insurance cannot be relied on as the chief business stabilizer; but if the investment of the unemployment fund is properly managed, it can be made useful to that end. Nor can insurance be expected to provide funds sufficient to carry workers through prolonged periods of such general unemployment as was experienced in this country in the years after 1929. Its usefulness is as a first line of defense for industrial workers at the onset of the more common short-time unemployment. There it can perform a highly useful function.

[4]*Social Security Bulletin*, August, 1945, p. 22.

Old-Age Pensions and Survivors' Insurance

The second major feature of the Social Security Act is its provision for old-age pensions and survivors' insurance for the general industrial population. Unlike the unemployment-insurance features, these provisions are wholly under Federal administration. As they stand after the modifying amendments of 1939, they exempt the same classes of labor as do the unemployment sections and, in addition, casual labor. The law lays on employers of all other labor a pay-roll tax which began with 1 per cent in 1937 and was to have increased gradually until it reached 3 per cent, after 1948. In 1943, however, when increase in the tax was due, it was frozen at 1 per cent, an action confirmed in 1946. A similar tax levied on the wages of all employees has also been frozen. Thus for an indefinite period the tax is to be 2 per cent, half levied on pay rolls, half on wages. Between 1937 and 1940 all funds collected became the property of an Old-Age Reserve Account and were invested by that Account in government securities. On January 1, 1940, at the same time that payments from the Account to those over sixty-five began, the Secretary of the Account transferred to a Trust Fund on the books of the Treasury all government securities owned by it. Henceforth this fund, under a Board of Trustees consisting of the Secretary of the Treasury, the Secretary of Labor, and the chairman of the Social Security Board, will have added to it each year current receipts from the taxes described above. Such income as is not needed for current outgo is invested in securities of the United States. It is the duty of the board to report to the Congress at once whenever the fund threatens during the ensuing five years to exceed three times the largest annual expenditure or to be "unduly small," in order that revision of the taxes may either reduce or increase it at need.

Beginning January 1, 1940, out of the fund thus created pensions ("benefit payments") are to be paid to workers from the age of sixty-five until death, at rates depending on the total wages earned during their entire working life, but in no case exceeding $85 a month. The minimum payment is $10 a month. If a worker's total wages have come to $45,000, he will get $50 a month; if $129,000 or more, $85. If a person dies before reaching the age of sixty-five, there is to be paid to his estate a lump sum equal to 3½ per cent of all wages he has received. If one dies after that age but before having received benefits equal to 3½ per cent of wages, the balance up to that sum is to be paid to his estate. All payments are calculated only on wages earned after the law went into effect. Matters of administrative detail and terms of payments to wives of retired workers when over sixty-five, children if under eighteen, and widows over sixty-five, or under sixty-five if they have dependent children, were care-

fully laid down in the amendments of 1939 as the result of two years of experience. What started as an old-age retirement system can now be better described as family insurance. Our old-age pension scheme has been called "the world's largest insurance system," and its accounting "the largest bookkeeping operation in history." Some 40 million people are covered, and their insurance is provided at an average cost of 17 cents an account. The worker "may have shifted from a soda fountain in New York to an airplane assembly line in Michigan or a crane in an Oregon shipyard," but his account number and the record of his earnings go with him. In both problems and method old-age insurance differs from unemployment insurance, whose administration has been left primarily in the hands of the states. Old-age insurance is the exclusive task of Federal agencies, primarily the Social Security Board, which at the outset was confronted with the enormous work of opening accounts and beginning continuous wage records for nearly 30 million individual workers, together with corresponding records for nearly 2 million employers subject to tax.

By far the most important change accomplished in 1939 was the substitution of the small Trust Fund for the huge Reserve Account contemplated in the original act. While the substitute adopted did not rely entirely on a pay-as-you-go system, in which the taxes of each year meet the payments of the year, it was intended to approach that plan. The swollen pay rolls of war years increased tax receipts, while the need for workers kept many men and women in industry after sixty-five, with the result that in 1944 the tax yield was six times as large as the sum of benefits paid. This situation will probably be reversed as the proportion of those in our population above sixty-five increases.

The problem of old-age security is of rapidly growing importance to us, owing not only to the change in our economic situation but to the constant lengthening of life. In 1900 only 4.1 per cent of our people were sixty-five years old or over. Today the ratio is above 6 per cent. By 1980, when it is calculated that our population may become stationary at something like 150 millions, the old-age group, it is estimated, will embrace 12.6 per cent, or one eighth of the total number. It is this increase in the proportion of the population receiving benefits which makes a pay-as-you-go program problematic.

The Secretary of the Treasury was required by the act to include in his annual report the "actuarial status" of the Old-Age Reserve Account, and the report for 1937 contained interesting calculations based on that information. The covered group as of June 30, 1937, was estimated at 26,375,000, a number expected to increase by a quarter-million a year to 55 millions, at which point it is expected to remain constant. The annual earnings of all individuals

covered, from entrance to retirement, allowing for unemployment and for employment outside the scope of the act, are assumed to average $967. This would come to about $40,000 for the entire working life, yielding an old-age benefit of $550 a year. All such estimates of course have to be based on assumptions that may not be borne out in experience.

The principles implicit in the Social Security Act are, after ten years of successful operation, generally accepted. Debate now turns on the extension of the benefits. The measure should be viewed in the larger setting of the whole national real income. By making arrangements for a somewhat greater equalization of money income throughout the life of members of the industrial working population, it seeks to insure to them a more regular and also slightly increased participation in the real income produced year by year. It is hoped that this regularization may affect favorably the total real income produced, so that the increased share may come out of an increased total real income. All such measures inevitably involve increased taxes, and taxes used for these purposes mean a shifting of real income from others to the industrial workers, except as those workers themselves pay the taxes. This subject will be treated at greater length in our chapter on public finance. It is important at this point to realize that taxes so used do not mean a "burden" laid by government on industry, however difficult the paying may prove, but a shifting of real income from one group to another.

CHAPTER THIRTY-THREE

Labor Organization

IN OUR study of the essential factors of production, we examined the labor force as one of the important resources of this or any country. Our discussion of the distribution of income brought us again to a consideration of labor, this time as the recipient of a share of the national income. We now turn to an inspection of the laboring population organized as a bargaining agent in the productive process. In a study of trade-unions we are still dealing with influences affecting distribution and consumption as well as production. To the business organizations which act as production units in the creation of the sum total of the national income we have made frequent reference; labor organizations we have largely ignored. By the term we commonly mean an association of wage-earners for the purpose of maintaining or improving their conditions as workers. In a large part of present industrial life the organized union, not the individual, is the unit to be considered in the bargaining process, and it not only becomes an important element in the processes of production and distribution of income but also demands a place in any consideration of the influences at work modifying the present inequalities of such distribution. Mill's dictum that the laws of distribution were man-made and could be modified by man finds illustration in the efforts of labor unions to better the conditions of their members.

Of our approximately 54 million employed workers about 14.7 million were in 1945 members of labor unions. Of these some 7,000,000 were reported to be affiliated with the American Federation of Labor; roughly 6,000,000, with the Congress of Industrial Organizations; and probably about 1.7 million were in the railroad brotherhoods and independent unions. To understand the full import of this statement we need to understand something of the history of labor organization in this country.

The Development of Unions

Associations of laborers first developed where considerable numbers of skilled craftsmen were brought together in good-sized towns or cities. Members of the same trade, who frequented a particular public house, might put

up a few pence apiece to be used for social purposes or for the aid of the families of the sick or deceased members of the group. What started as a social club quite naturally developed into an organization whose members agreed to certain rules in carrying on their trade. In time that organization no less naturally came to the support of its members in any difference with an employer. As the markets widened, and masters, under competitive pressure, attempted to depress wages, these early groups of journeymen endeavored to maintain old scales and occasionally to improve them. They were not made up of workers peculiarly oppressed but of those "peculiarly advantaged by reason of their scarcity, intelligence, and facility of communication." There is here nothing unique, but merely one expression of the tendency of men to form associations to promote their common interests.

In this country such groups were to be found, toward the end of the eighteenth century, in Philadelphia, New York, and others of the larger towns. During the 1840's and 1850's, as the development of factory industry sharpened the separation between employer and employee and emphasized the divergence between their interests, trade-unions spread from the artisans to groups of factory workers. Yet so long as men could pass with comparative ease and rapidity from the status of employee to that of employer permanent organizations of workers could not be built up. Only as individual advancement has become difficult or impossible has the trade-union achieved its present importance. Today an organized labor movement of some sort is to be found in every industrial country under the sun. Such a movement is not attributable to the work of "agitators," as American employers have been prone to believe, though it has developed a group of labor leaders many of whom appear to employers in that light. It is the result of the recognition of permanent interests common to a group of employed workers.

Union Structure

1. Local and Central Unions · The essential unit of this movement is the local union out of which all other forms of organization arise. A local union consists of a group of workers of one of two types. It may unite the members of a particular craft or trade in a neighborhood, when it is known as a craft or a trade-union in the narrow sense of the word. On the other hand, it may admit all the employees of a given industry in the territory covered, irrespective of their particular craft. A local of the United Mine Workers, for example, tries to enlist in its membership all the men in the neighborhood who work in and about the mines, whether above or below ground, and whether actual skilled miners or ordinary laborers, drivers, carpenters, electricians, or what

not. Such is the industrial union. Pure craft unions are rare, but there are many intermediate types. A local union may embrace only a score of workers; it may number its members by the hundred. It is supposed to meet regularly, often monthly; in important crises, more frequently. The general meeting of the members is competent to transact all business of the union. Members pay regular dues, sometimes a dollar or two a month; sometimes as little as twenty-five cents. There is the regular complement of officers: president, secretary, and treasurer, and in addition the business agent—or, as he occasionally is called, the walking delegate—a salaried official who devotes his whole time to union affairs. He is ordinarily a union member who has shown special ability for the heterogeneous duties that the position of business agent requires, and he almost immediately becomes a professional with an interest in the union as such, since it provides him with his living. The possible division of interest between the rank and file of union members, on the one hand, and their paid officials, on the other, must not be overlooked in any consideration of union activity.

At an early stage of union history it became customary for unions of various trades in any considerable community to send their representatives to a common meeting. Frequently they met on Sunday afternoons and talked over questions of interest to the member unions, usually without action. Such meetings served to keep the unions of a locality in touch with one another, but exercised no control whatever over them. For a hundred years there have existed in the chief American cities such groups, called central trade-unions or city trade councils.

2. National Unions · Far different is the position of the national unions—or, as they are often called, the internationals, since they include locals in both Canada and the United States. As unions developed, their members discovered that their own interests often ran beyond the area touched by the local union, and that to become effective, union activity and organization needed to cover the whole market. By the middle of the nineteenth century attempts had been made in many crafts to bring together the locals into larger district organizations, culminating ultimately in national unions. There are now nearly two hundred of these national unions, ranging all the way from little ones of a few thousand members up to the United Mine Workers, with a membership of between 600,000 and 700,000. During the first half of the twentieth century the nationals have become the dominant form of trade-union structure. They have been organized, developed, and run by the abler and more ambitious leaders, who came up out of the locals and who sought a wider field for their own activity and more power for their organization.

Out of the monthly membership dues collected by the locals a fixed amount goes to finance the national union. A national like the United Mine Workers thus may have a large revenue.

The central authority of a national trade-union, according to the constitution of most of them, is the convention, which usually meets annually or biennially for a period of ten days or two weeks. Composed of delegates from the local unions, the convention has complete power over all union affairs. It chooses the officers of the national and determines, if it so desires, all important questions of policy and practice, exercising of course the all-important control of the purse.

But the convention is in session at most not more than two weeks out of fifty-two. At all other times, that is, nearly all the time, a national union, therefore, is necessarily its officers and their paid subordinates, including its force of organizers. They spend the money of the union in carrying out the activities agreed on by the convention. A trade-union resembles a corporation. The annual stockholders' meeting of a well-managed large corporation becomes little more than a formal gathering to ratify and give legal force to policies determined by the management, who know better than the stockholders the needs and possibilities of the corporation. Similarly, the convention of a well-managed union tends to become little more than a formal gathering to ratify and give legal sanction to policies in fact determined by the officers, who, much better than the members of the convention, know the needs and possibilities of the union. Again, the management of a corporation not infrequently puts the interests of the corporation and its management ahead of the interests of the stockholders. Similarly, the officers of a national union not infrequently put the interests of the union and its officers ahead of the interests of its individual members. The key to the conduct of corporate enterprise, as we said at an earlier point, is to be sought in the purposes and methods of management; the key to the conduct of union enterprise is to be sought primarily in the purposes and methods of the officers of the national unions.

Union Functions

1. Collective Bargaining · The central function of present American trade-unions and the reason for their existence is collective bargaining, though it is a wholly inadequate view that does not take account of their broader objectives. But for practical purposes most American unionists today regard their union as an agency that gets for them better wages, hours, and conditions than they could get without it. They think of it basically as a means of utiliz-

ing the power of numbers in dealing with employers. Under individual bargaining, as pointed out in Chapter Twenty-five, a large corporation fixes its pay schedules and employment conditions; the ordinary worker takes the job or leaves it—that is, leaves it if he knows of a more attractive possibility elsewhere. Under all but exceptional circumstances the employer can easily enough get someone else to take his place if he stands and acts alone. Aside from the graciousness of the employer, the worker's sole chance of getting any voice in determining the basic conditions of his own working life rests in acting with his fellows. Hence the necessity for independent unions free from employer domination.

Many unionists have an exaggerated idea of the power of organization to raise wages, though intelligent leaders realize that wages must be produced if they are to be paid. As we have seen, monopolistic unions, like other monopolies, may increase the takings of their members at cost to the rest of society. Restriction of output on the part of unions has already been referred to in Chapter Twenty-five. Such restriction, when imposed to protect the health of the workers—and there can be no gainsaying the fact that some restriction has been for that purpose and has been sorely needed—is a legitimate union policy. When imposed as a means of creating scarcity and thus increasing the returns of a particular group, it is subject to the criticisms applicable to other monopolies and is likely to act as a boomerang, creating unemployment in the very group it is intended to benefit. Even more reprehensible than policies of restriction is the corruption among certain of the trade-unions, which has done much to injure the reputation of labor unions in general. There can be no excuse for tolerating it as a necessary part of trade-unionism, any more than we need to tolerate dishonest business or banking activities. Other unions, neither monopolistic nor racketeering, can serve their adherents, so far as wages go, in two ways. Directly, a union can ensure expert collective bargaining in place of one-way wage-fixing by corporations; it can bring pressure on employers to use methods that make for efficient and regular production; and it can help in the settlement of the grievances of individual workers, a highly important function. Indirectly, it can increase the weight of labor in the community by the education of its members and by various other union activities not immediately connected with employment relations. Such indirect influence on wages is important in the long run. Needless to say, not all unions function in just these ways.

The primary agency for collective bargaining is sometimes the local union, which is also the machine for the adjustment of grievances and the promotion of the interests of its members in their employment relation. The union—acting, it may be, through its business agent, its officers, or a committee—

seeks to make a collective bargain with the employer covering wages, hours, and conditions of work for all its members. The agreement which results from this bargaining first settles the relationship between employment and union membership. The bargain may provide for a closed shop or a union shop, it may contain a maintenance-of-membership clause, or it may contain no provision as to membership, specifying only that the union is the bargaining agent for all the employees. Under a closed-shop agreement only members of the union are employed; with a union shop, men need not be union members when they are first employed, but they must join within a specified time. Under maintenance of membership they are not obliged to join the union, but if they do join they must retain their membership during the life of the contract. The rest periods in a day, the number of holidays, the amount of vacation with pay, the rate of pay for overtime, and a host of other questions receive attention in the negotiations and are incorporated in what is likely to be in the end an elaborate statement of detailed and complicated relationships. At the insistence of the union involved there was written into a certain trade agreement a provision that the employers spend $1,500,000 annually for promotion and advertising, of which the union offered to contribute $100,000. This followed a study, initiated by the union, of undeveloped market possibilities, and it is highly suggestive of the lines along which future action may develop. The union likewise tries to adjust for its members questions arising out of the operation of the collective bargain and to settle grievances for them, the skill with which these are managed often determining the success of the agreement. The local union also carries on recreational and educational functions and sometimes provides insurance protection.

The national union helps the locals in organizing and extends organization to new areas. It supports them in bargaining for better wages and hours, and aids them by the more effective administration and financing of other activities and, perhaps most important, by better organization of those labor efforts which involve lawmaking and law enforcement. Publicity, lobbying, political campaigning, the legal conduct of strikes, all call for the service of the national union. Up to the advent of the Committee for Industrial Organization the national union had been the chief organizing agency of the American union movement. In addition, its experienced officials were likely to be vastly more effective than any local representatives in the intricate and tricky process of collective bargaining. The locals thus get much help in this central feature of their work. But further, as the area of market competition and consequent union organization extended more widely, so did the area of collective bargaining. The basic bargain, on which of course were built endless local variations, came to cover great regions, sometimes entire

industries. Such bargaining necessarily passed entirely into the hands of the national officers, assisted in the better-organized unions by committees familiar with local conditions in various parts of the regions covered. Such basic bargains with employers, settled sometimes after months of negotiations, were embodied in joint agreements, often running for two or three years and fixing wages, hours, and working conditions for tens of thousands of union members spread over a dozen states. The four great transportation brotherhoods for decades have bargained collectively with the railroads. One bargain fixes all these conditions for all the transportation employees in the trunk-line territory east of Chicago and north of the Ohio River; a second, for the southern territory east of the Mississippi and south of the Ohio; and a third, for the western territory stretching all the way to the Pacific Ocean.

The national unions have taken over likewise the control of strikes. Nothing could be further from the truth than the popular supposition that unions cause strikes and exist chiefly to carry them on. Employer opposition to unionization causes many strikes, but the development of powerful national unions in industries where employers deal with them in good faith reduces the number of strikes, though it is likely to increase the magnitude of the rare ones that occur. Officers of national unions, like all responsible men, realize the importance of the steady functioning of industry and know only too well the costs to their members involved in strikes. They are also likely to realize better than the less experienced local officials or the rank and file the difficulties involved in the conduct of a successful strike, and their influence is almost always thrown on the side of a conservative policy. If a local union calls a strike without the sanction of its national organization, it receives no financial help from the national. In some unions the calling of strikes without such sanction is absolutely forbidden. In such "illegal" strikes (called by locals in violation of contract) national unions have sometimes been known to furnish men to act against their own members. Even without going to such lengths, however, the national officers of most unions, through their ability to give or withhold aid, financial and other, have in fact acquired a large measure of control over the strike policy of their constituent unions.

2. Benefit, Educational, and Political Activities · The benefit and educational activities of the unions are carried on to a large extent by the nationals, which administer funds for sickness, death, old-age, and unemployment payments. Such benefits have not been large in amount nor has their administration always been above reproach. Yet some of the well-organized unions were making such payments at a time when employers were doing little with group insurance, when the ordinary workers were less familiar than at present

with the possibilities of commercial insurance, and when the Social Security Act of 1935 was not yet dreamed of as a practical American possibility. Now that the Federal and state governments have entered the field of social security, it is probable that the benefit activities of the unions will become of less importance. On the other hand, the educational activities of unions seem likely to increase. Certain of the national unions, like the International Ladies' Garment Workers' Union and the Amalgamated Clothing Workers, have long carried on important educational and recreational work among their members.

In addition, national unions are important agencies of publicity, propaganda, and political and legal action. With their financial resources and their experienced personnel they are able to do important work in creating public opinion favorable to the workers and their organization. Most unions have their own official publications, issued monthly or oftener, primarily for the information of their own members. They try also to see that the news appearing in the general press is as favorable as possible to the union cause, though in the past their success in this particular has not been notable. American unions have nominally refrained from direct entrance into partisan politics. They have tried, however, with varying intelligence and often with indifferent success, to secure the election and appointment to public office of men friendly to the cause of organized labor. In such activities the national unions have been chiefly important. Further, they have often been highly significant lobbying agencies, both at Washington and at the state capitals. Few persons are aware how honorable is the record of organized labor in the enactment of legislation. Its services in the development of public education, to take a single example, have been praiseworthy. In the contentious field of advocating the interests of labor before the courts the national unions have played a leading part, and the slow modification of the law to make it more favorable to employees in their ever-recurring contests with employers is attributable in no small measure to their agency.

The American Federation of Labor

This brief discussion of the structure of American unionism and the functions of its several units omits entirely one important aspect of its organization, that is, the federation of unions both local and national. Some sort of federation had been a repeated dream of labor organizers from the very beginning of union activity. Two American attempts not long after the Civil War deserve mention. The National Labor Union, set up in 1866, brought together a number of unions with various farmer and political groups; but it attained no real strength and quickly disappeared. On the other hand, the

Noble Order of the Knights of Labor, established by Uriah Stevens and eight other Philadelphia tailors in 1869, after maintaining a precarious existence during the long business depression beginning in 1873, at the end of that decade took on vigorous life and experienced a rapid and widespread growth. Its peak membership of 700,000 was reached in 1886. At its origin it was a secret and oath-bound organization, but this mummery was given up later, though popular fear still surrounded the order with a certain mystery. Its founders sought to make it an association not simply of employees but of practically all productive workers, the only excluded classes being bankers, lawyers, stockbrokers, saloon-keepers, and gamblers. The diversity of membership not unnaturally brought with it a corresponding diversity of aims and methods. Despite the motto of the Knights, "An injury to one is the concern of all," and despite a form of organization that nominally centralized power in the hands of the national officers, the working lodges were largely independent, and the more active ones became essentially labor unions concerned primarily with questions of wages, hours, and other matters involving conflict with employers. In the face of the opposition of the national officers they engaged, during the eighties, in a series of great strikes, especially on the railroads. These brought them some spectacular successes but culminated in 1886 with a no less spectacular defeat. The loss of the Missouri Pacific strike, together with a series of other disasters for which no particular individual was wholly responsible, sealed the doom of the order in the very year of its greatest membership and power. Its sudden collapse indicated once more the difficulty of building a permanent labor movement on any other basis than a careful organization of workers who feel a substantial identity of interest among themselves.

This lesson Samuel Gompers and his associates had learned well when in 1886 they established the American Federation of Labor (A. F. of L.). This was founded on the idea of federating existing national unions in a loose organization for the promotion of common interest. The form followed the model of the national unions. It consisted (and still consists) of (1) the Convention, which meets each fall for a period of about two weeks, and (2) the Executive Council, consisting of the president and secretary of the federation, together with fifteen (formerly eight) vice-presidents, the whole seventeen being annually elected (and usually re-elected) by the Convention. The Convention, like the convention of a national union, exercises the supreme power of the federation. Like the officers of a national union, the Executive Council, within the limits set by the constitution and the Convention, exercises power when the Convention is not in session. The constituent elements of the federation are (1) national unions; (2) city centrals and district trade councils; (3) state federations of labor organized in the same manner as the

American Federation of Labor and in some particulars playing the same role in the state that the larger organization plays in the nation; (4) federal trade and labor unions which are organized by the federation in places (usually in large individual plants) where it is not yet practicable to organize craft unions and which will later have their numbers distributed among the various crafts claiming jurisdiction; and (5) departments of the American Federation of Labor (railroad, mining, metal trades, building trades, and union label) established to associate the crafts connected with special industries. In the Convention the nationals have one vote for each one hundred members, while unions of the four other classes represented have only one vote each. The national unions thus control the vote in the Convention, and of these the fourteen largest control about 60 per cent of that vote. In fact, the Convention has generally been ruled by those heads of national unions who have come to constitute the Executive Council of the Convention.

The Executive Council, though nominally the creature of the Convention, is in fact extremely powerful in its own right. Under the voting arrangement the heads of the larger national unions have little difficulty in getting themselves elected to the council, which meets monthly. Its decisions almost completely direct federation policy. The annual report of the Executive Council to the Convention is a formidable document, reviewing the year's work and discussing all kinds of questions of interest to labor. The federation derives its revenues chiefly from a per capita tax paid by the national unions on the ratio of one and one-half cents a month on membership up to 300,000; above that the payment is one cent per month per member.

The purposes of the federation as set forth in the constitution involve chiefly organization, adjustment of interunion difficulties, union education (through a labor press), publicity, and legislation. Its activities in carrying out these purposes were largely shaped by Samuel Gompers, who was its president, with the exception of one year, from 1886 till his death in 1925. Emerson once said, "An institution is the lengthened shadow of a man." Rarely has the remark been more perfectly exemplified than in the case of Gompers and the federation. A man of enormous energy, tenacious purpose, rather narrow ideas, and great organizing ability, he was essentially a business executive, but his business was organizing trade-unions instead of building railroads or making steel. Little concerned with theories and ideas, he observed that the successful labor organizations had been those which brought together skilled workers, able to pay high dues and to do effective fighting in strikes. He conceived that the bringing together of as many such unions as possible into one federated organization would greatly strengthen the influence and power of organized labor. Throughout his life a thick-and-thin advocate of what he called pure

and simple trade-unionism, he always insisted on keeping unions divorced from partisan politics; yet his last twenty-five years were largely occupied with political activities of various kinds. The federation, contrary to popular impression, lends almost no support to strikes, nor have its expenditures for a score of years gone largely into organizing campaigns, although organization is theoretically its primary task. It has really become in great part a powerful lobbying and publicity organization, whose activities are chiefly political in the wider sense of that term. Whatever Gompers's theories, his responsibilities as head of the most important labor organization in the country inevitably drove him into the arena of national politics, and to the actual support of candidates and parties, to the promotion of measures favorable to labor, and to the opposition of those believed to be injurious.

The Committee for Industrial Organization

Consideration of the history of the American Federation of Labor makes comprehensible the events of recent years leading to the formation of the Committee for Industrial Organization (later the Congress of Industrial Organizations) and the consequent cleavage in the organized labor movement. So significant to our labor situation is this cleavage that the steps which led to the present bitter enmity call for detailed consideration. The federation from the very beginning has put its faith in craft unions—that is, unions of workers of essentially the same skill, in a single trade or craft. Throughout its history most of its constituent unions have been of this general character, though it should be observed that the federation has not refused to admit industrial unions from industries which for special reasons were thus organized. Gompers, as a practical man interested in building up a stable business enterprise, never lost his faith in the craft union, and the vested interests of the leaders of such unions have perpetuated that faith.

Although the federation leaders thought and acted along craft lines until the advent of the C.I.O., industry has refused to proceed along such lines, but, as we know, has created great mass-production plants manned to a large extent by unskilled or semiskilled labor. As a result, since the beginning of the present century there has been a demand for organization by industries rather than by crafts. This demand was refused in a declaration adopted by the Convention of 1901. The question reappeared at the Conventions of 1919, 1921, and 1922, but always with the same result. The federation officials continued to try to meet the organizing problems of the twentieth century with the type of organization fitted to the conditions of the middle nineteenth. Adhering to the craft-union principle, Gompers and his lieutenants were unable to make

even a beginning in the task of organizing the basic industries dependent on machinery and mass production. Practically the whole body of unskilled workers remained unorganized. The failure was not entirely caused by an outworn principle of organization, however. Many of the older federation leaders had lost interest in attempts at organizing the great body of unorganized workers and were content to rule their own labor duchies, sharing meanwhile the exercise of federation power at Washington.

With the accession of the Roosevelt administration in 1933, the beginning of industrial recovery, and the reaffirmation of labor's right of collective bargaining, a new period of organization began. Inevitably the issue of industrial unionism was once more raised, this time under the forceful leadership of John L. Lewis, successful president of the United Mine Workers. At a special meeting of unions called in 1933 the Executive Council was given wide latitude to grant charters under which unions might be organized without respect to craft lines. The failure of the Executive Council to act on this authorization brought about the creation in 1935 of the Committee for Industrial Organization (C.I.O.). In this committee were representatives of eight (later ten) unions, some of them among the oldest and strongest craft unions in the country. While determined to organize the mass-production industries, they made no move toward withdrawal from the federation; but the Executive Council first suspended and then expelled the ten unions involved. Accepting the situation, they promptly changed their name to "Congress of Industrial Organizations," and, with Lewis as president, formulated a constitution of their own and began an independent existence.

The first workers to be organized under the C.I.O. while it was still a committee were those in the automobile and steel industries. Recognition of the new unions was gained by strikes in General Motors and Chrysler plants, and by peaceful negotiation in the steel industry, though here four of the largest of the independent companies, often referred to as "Little Steel," refused to sign contracts with the Steel Workers' Organizing Committee.

These successes in industries not only unorganized but in the case of steel long known as uncompromisingly opposed to unions greatly increased the prestige of the C.I.O. in the labor world. The organizing activities of the committee were rapidly extended, and by the end of 1937 it claimed a membership of about four millions.

Inspired with new zeal by the existence of so powerful a rival, the A. F. of L. likewise increased its membership to about the same number. Thus by the end of the thirties approximately one quarter of all nonagricultural wage-workers in America were attached to labor organizations.

The success of the Congress of Industrial Organizations widened the

breach between it and the federation, which now denounced it as a "dual" organization, that is, one disputing the jurisdiction of a recognized union. This issue is plainly inescapable. If certain industries must be organized on an industrial basis or not at all, the progress of the union movement makes it essential for the craft unions to resign their claims to jurisdiction in those industries. As long as the crafts refuse to do this and the federation supports and encourages them in their stand, division in the ranks of labor seems inevitable. The fact that many of the A. F. of L. unions are now industrial unions has done nothing to reduce the bitterness of feeling between the two organizations. Notable among these unions is the United Mine Workers organization, once incorporated in the C.I.O., then independent, now back in its first home, the A. F. of L.

Employer Resistance to Unions

The rift in the forces of labor constitutes one obstacle to the strength of labor; the attitude of many employers presents another. American employers, with a few outstanding exceptions, have opposed the extension of unionism among their employees. Just as a recognition of the common interests of the employed drew the latter into unions, the recognition of what the employers have believed to be their own common interest has united them in opposition to unionism. Thus not only individual employers but important employers' organizations have fought workers' organizations bitterly. The National Association of Manufacturers, whose members employ more than half the manufacturing wageworkers of the country, has been notoriously opposed to unions. At times such opposition has been passive; at others it has taken active form.

There is no need to rehearse in detail the antiunion methods and devices of determined employers and employers' associations. Discharge for union activity has been frequent. "Yellow-dog contracts," under which employees agree to refrain from union membership, have been common. A considerable industry has supplied spies and strikebreakers, the former busy to no small extent within the unions, the latter useful when industrial war breaks out. The repulsive details of the activities of these so-called "detective agencies" have been brought to public attention through prolonged investigations by the La Follette Committee on Civil Liberties. Such agencies have been employed by many of the largest and most reputable employers of the United States in their fight against unionism. Naïve persons who did not realize the seriousness of the labor struggle have been aghast also at the revelation of the purchase by large employers of arms, munitions, and tear gas in preparation for strikes, a fact likewise made known by the work of this committee.

Short of such fighting methods, opposition has often taken the form of a refusal to "recognize the union," that is, to deal with union representatives in making wage contracts. Employees might join a union if they pleased, but the employer would not deal with the union when it came to fixing wages, hours, and working conditions. Thus employers' opposition to unionism, confronted by the desire of employees to organize and the desire of the unions to extend their membership and power, has given rise to a continuous series of conflicts. These have ranged all the way from petty local disputes to armed encounters like the Homestead battle of July 4, 1892, the labor wars that convulsed Montana and Colorado at the turn of the century, the Ludlow massacre of 1913, and the Chicago police slaughter of strikers on Memorial Day, 1937. Violence has been used freely on both sides.

The Development of the Law of Unionism

The appeal, however, has by no means always been to violence. Employers and unions alike have invoked the services of the law. In their determination to "run their own business in their own way without interference from outside agitators," employers have made free use of the law and courts. The unions, on their side, though with less skill, also have sought legal aid. Since law, as it stands, in the main tends to preserve existing relations, the efforts of the unions usually have been directed to changing its form, in order to make it a more certain aid in their perpetual contest with employers. The employers, for the most part content with its existing form, have endeavored to use it to protect their property rights. On the whole, despite popular impression to the contrary, the law has moved, irregularly yet more or less continuously, toward an enlargement of the rights of unions and the legalization of their methods. Our judges, however, in interpreting that law, often have appeared to their critics unduly tender in protecting the conflicting rights of employers. In general the judges by their decisions create the rules of the contest. If the unions and their partisans find the rules unsatisfactory, they then seek legislation embodying different rules. If their proposals are enacted into legislation, employers in turn may test the new measure in the courts, alleging that it violates certain of their constitutional rights. If the court of last resort decides that such is the case, the law is of no effect, and the old rules stand. If the court sustains the measure, then the new rules embodied in that measure govern future controversies. Such process of legal change went forward rapidly during the thirties and culminated in the National Labor Relations Act.

The explanation for the rapid passage of a series of laws establishing the legal status of the union, strange as it may seem, is in part to be found in the steady

decline in the economic power of the unions during the prosperous twenties. Employers during this period used the yellow-dog contract with deadly effect. Many of them developed company unions, organizations that united all the employees of a single plant or a single concern but that had no outside connections and that consequently could not bring effective pressure to bear on the employer in matters of wages and hours. In some of the more important mass-production industries, like steel and automobiles, employers refused to have any dealings with unions. The unions, under existing interpretations of the law, were not assured of their right to function in the face of employer opposition. In addition to other legal restrictions, they were always in danger of restraint by sweeping court injunctions which paralyzed many of their ordinary activities. In this situation the unions, not strong enough industrially to make their demands on employers effective, found that they were strong enough politically to secure the passage of a series of laws which, in words at least, guarantee the workers freedom to organize.

The Legislation of the Thirties

The first of these, the Norris–La Guardia Anti-Injunction Act, passed in 1932, sought to limit the power of the Federal courts to issue injunctions in labor disputes. It specifically asserted as part of the public policy of the United States the right of the worker to have "full freedom of association, self-organization, and designation of representatives of his own choosing." It also prohibited yellow-dog contracts.

The next step in guaranteeing to labor the right to organize came with the incorporation in the National Industrial Recovery Act of 1933 of the celebrated Section 7 (a), which reasserted the declaration of right contained in the Norris–La Guardia Act and again prohibited yellow-dog contracts.

Promptly following the decision declaring the Recovery Act void, the Congress enacted into law a bill drawn by Senator Robert F. Wagner of New York. The measure was passed after long study and elaborate public hearings, at which all the interests affected presented their case. As passed, it embodies Section 7 (a) and the interpretations of it developed by the labor boards of the earlier act. It was signed by the President on July 5, 1935, as the National Labor Relations Act, often called the Wagner Act.

In its preliminary section the act states that the denial of the right to organize and to bargain collectively results in the obstruction of interstate commerce and in low wages which exaggerate business depressions. With this gesture toward the constitutional limits on Federal legislation, the act goes on to declare unequivocally in Section 7:

"Employees shall have the right of self-organization, to form, join, or assist labor organizations, to bargain collectively through representatives of their own choosing, and to engage in concerted activities for the purpose of collective bargaining or other mutual aid or protection."

Section 8 forbids an employer

"(1) To interfere with, restrain, or coerce employees in the exercise of rights guaranteed in Section 7.

"(2) To dominate or interfere with the formation or administration of any labor organization or contribute financial or other support to it. [This provision is designed to prevent employers from running company unions, though not to prevent employees from forming such, if they desire.]

"(3) By discrimination in regard to hire or tenure of employment or any term or condition of employment to encourage or discourage membership in any labor organization. [This provision prohibits the yellow-dog contract, but does not prevent an employer from entering into a closed-shop agreement with a trade-union that represents a majority of his employees.]

"(4) To discharge or otherwise discriminate against an employee because he has filed charges or given testimony under this Act.

"(5) To refuse to bargain collectively with the representatives of his employees, subject to the provisions of Section 9 (a)."

These curbs on the power of the employer, it is important to observe, are all intended to prevent him from interfering with the right to organize granted by the law. The acts enumerated are unfair labor practices, because if allowed they could completely destroy the effectiveness of the law. Further provisions designate the method by which the bargaining agency is to be determined and lay down the powers and procedure of the National Labor Relations Board which is to administer the act.

The Supreme Court and the National Labor Relations Act

The act was immediately brought to the test of the Federal courts. Some of the inferior courts declared it unconstitutional; others sustained it. During the period of twenty-one months before it reached the Supreme Court employers continued to use the old devices against organization. On April 12, 1937, the Supreme Court, by a majority of five to four, maintained its constitutionality, thereby revealing a greatly enlarged conception of the power of the Congress over interstate commerce.

The decision on the Wagner Act marks a change of major importance in

the history of constitutional interpretation. It also had important practical consequences. First, great numbers of employers, theretofore uncertain just what to do, as good citizens accepted the decision and at once adapted their bargaining procedure to the law. Secondly, almost the entire body of company unions, called into existence by employers under the National Industrial Recovery Act and the National Labor Relations Act as a means of meeting the collective-bargaining requirements without dealing with trade-unions, came to a speedy end. They had no real support among the employees. Thirdly, the effectiveness of the National Labor Relations Board in protecting the right of employees to genuine collective bargaining was greatly increased. Fourthly, the hand of the labor organizer was materially strengthened. The effect on union membership has already been indicated.

Criticism of the Act and of Its Administration

The action of the Court in sustaining the law, however, by no means put an end to the opposition to that measure. Such opposition takes two forms: criticism of the act itself as one-sided and criticism of the actions of the board in administering it.

So widespread has been the misunderstanding of the function of the act itself and of its place in the body of labor law that it may be well to recall to the reader its fundamental purpose, though, at least by implication, that has already been pointed out. In our body of legislation and our machinery for its enforcement we already had provisions for protecting the property rights of the employer and for arbitration or mediation of industrial disputes between employer and employee, but we had no statutory protection of the right of workers to organize. Although for a century no American court had questioned this right, many employers had in fact effectively denied it to their employees by discharge for union membership, by yellow-dog contracts, and by other methods only less effective. This right the present law safeguards by prohibiting employers from interfering with it and by explicitly forbidding as "unfair labor practices" certain specific methods that have commonly been used to prevent organization. The critics who complain that the act fails to give equal protection to employer and employee do not understand its purpose. Legislation could not protect the right of workers to organize unmolested by hostile employers and at the same time confirm employers in the right to prevent their workers from organizing. Once it is agreed that wise public policy requires freedom to organize, the employer must lose the right to prevent such organization. For instance, frequently in the past employers have financed company unions for the purpose of obstructing the establishment of "outside"

unions. This they can no longer do. All law is forever choosing between conflicting "rights." Certain rights are protected at the cost of others. The Congress in passing the Labor Relations Act held it important to protect the workers' right to organize. Therefore certain rights which employers previously had exercised were taken away.

Additional charges are that the act threatens our form of government by creating a single body which unites within itself legislative, executive, and judicial functions, thus destroying our traditional separation of powers, and that by its existence on the statute books it has multiplied strikes and labor disturbances. In regard to the first of these accusations it is necessary only to remind the reader that our system of government has embodied the Interstate Commerce Commission since 1887, and that the National Labor Relations Board is one of a long series of boards and commissions of similar nature. The second is amply disproved by the facts.

Again, criticism in enormous volume has been directed against the board itself, which is charged with almost every imaginable dereliction. It has been accused of being prolabor and antibusiness, of being for the Congress of Industrial Organizations and against the American Federation of Labor, of being unjudicial and un-American, of promoting instead of preventing industrial strife, of violating the civil liberties guaranteed by the Constitution. During the year 1939–1940 the opponents of the measure subjected the work of the board to a protracted and hostile investigation, in the midst of which the investigating committee submitted to the Congress amendments which, in the opinion of most convinced believers in the necessity of collective bargaining, would have deprived the act of its effectiveness. In weighing charges against the board the student should remember the highly controversial character of the statute which it is called on to administer, and then should examine the actual record of that body as compared with the volume of report, rumor, and comment concerning it that fills the press.

The facts are as follows: Up to June 1, 1938, the board had closed 11,180 cases, involving practically two and a quarter million workers. Of these cases 16 per cent were dismissed by the board and regional directors as without merit under the law, and 24 per cent were withdrawn, largely for the same reason. Thus the board actually disposed of two fifths of all cases brought to its attention by dismissal or withdrawal of the charges made. Yet more important, 55 per cent of all cases were settled by agreement of employer and employee. Thus no less than 95 per cent of all cases brought before the board were settled without any use of the formal procedure provided in the act. The remaining 5 per cent required some use of the formal process. Even of these the majority were settled by compliance with the board's decisions and trial examiner's

intermediate reports; by certification after elections (to determine the bargaining agency), or refusal to certify; by intermediate reports finding no violation of the law; or by transfer to other agencies, such as the Conciliation Service of the Department of Labor. In only 250 cases, or slightly more than 2 per cent of the total, has the board had to issue cease-and-desist orders, a certain number of which cases were carried to the courts.

On its docket for the fiscal year 1943 the board had 12,403 cases, 78.8 per cent of which were closed during the year. Of those closed 77.7 per cent were settled without formal action by the board. The 39 per cent of the cases dealing with unfair labor practices indicate that violence, espionage, and refusal to deal with unions are by no means extinct, but happily the proportion of such cases is growing steadily less. Before the courts the record is no less satisfactory. Up to June, 1943, 481 cases had been reviewed by Federal courts. In 261 of these the board's orders were fully confirmed; in 150 they were confirmed with modifications. The Supreme Court had set aside two of its decisions and affirmed thirty-nine, a remarkable record.

In judging the fairness and competence of an administrative body charged with the performance of an extraordinarily difficult and delicate task, no thoughtful person can be oblivious of a record such as this. The real question at issue, despite all criticism, is not whether the board is performing its task well but whether the policy embodied in the National Labor Relations Act is necessary in a system pledged to free enterprise. The belief that the right to bargain through unions of their own choosing is a right essential to democracy has spread rapidly in recent years. When the right of collective bargaining is accepted in fact as well as name by all parties concerned, we shall have taken one necessary step toward the building up of a structure of tolerable relations between employers and workers in great industries. And until cooperative relationships are established we cannot obtain from our economic system its highest efficiency.

Labor during the War

During the war years public attention was transferred from the National Labor Relations Board to the work of a temporary agency, the National War Labor Board. We have seen that the function of the first board is to see that workers are not prevented from organizing and bargaining collectively. The kind of agreement made is not the concern of the board. If the union and the employer fail to agree, a strike may follow. Again, this is not the concern of the Labor Relations Board. But strikes, wasteful at all times, are disastrous in a country at war. In wartime, costs of living rise rapidly and friction be-

tween employer and employee is likely to be sharpened. To deal with the difficulties ahead the President, on January 12, 1942, created the War Labor Board, composed of representatives of labor, of employers, and of the public. Through three stormy years this board contended with the task of maintaining labor peace, of raising substandard and inequitable wages without allowing the general level to rise, and of protecting unions which, by taking a no-strike pledge, had deprived themselves of their most powerful means of protection.

After struggling with separate wage problems, each considered on its merits, the board evolved a measuring rod, known as the Little Steel Formula, which it endeavored, with varying success, to apply to all cases. Under the assumption that the cost of living had risen 15 per cent since January, 1941, and that further increases could and would be prevented, it ruled that wages might be increased to 15 per cent above their level on that date, but no more.

Possibly even more surcharged with feeling than the struggle over wages was the struggle over union security. Union leaders, apprehensive that they might lose that which it had taken a century of effort to gain, asked for assurance that their organizations would not disintegrate during the period in which they had surrendered their right to strike. Companies looked with hostile eye at anything which suggested that the government was enforcing the closed shop—that is, a plant in which only union members are employed. To resolve this conflict the War Labor Board evolved the principle of maintenance of membership, which was written into many agreements during the war, sometimes willingly, sometimes with great reluctance. All employees who were members of the union or who might become members were obliged to maintain their membership for the duration of the contract. There was here no insistence that employees join the union, but if they joined they must remain members. In most of the contracts containing this clause, members of the unions were given two weeks, an escape period, in which they might withdraw if they wished, a privilege of which few took advantage.

The major labor dispute of the war years was in the coal industry, where the persistent refusal of the union to accept the rulings of the board alienated public sympathy and brought about the hasty passage of the War Labor Disputes Act, known as the Smith-Connally Act. This measure, passed on June 25, 1943, in the face of widespread protest and over the veto of the President, provided, among other regulations, that "the representative of the employees" of a war contractor shall give to the Secretary of Labor, the National Labor Relations Board, and the National War Labor Board notice of any labor dispute involving the contractor and his employees, and a statement of the issues. Thirty days after such notice the National Labor Relations Board was to take a secret strike ballot. Even before the bill was passed, it was predicted

that its effect would be to increase, not to diminish, the number of strikes, and events seemed to justify the prediction.

The end of the war brought the hasty dissolution of the machinery of the War Labor Board, and a return to collective bargaining for wage increases, with a series of prolonged strikes to enforce the demands of organized labor, along with a revival of demands for the modification of labor's power by legislative action.

Throughout the years under review here the efforts of organized labor have been directed toward achieving legal respectability, a larger membership, and an increased share of the national income. In all these directions the gains have been considerable. By January, 1944, 45 per cent of all workers in private industry were employed under union agreements, though not more than 30 per cent were members of unions. Of those working under agreements 30 per cent were connected with closed shops, 20 per cent were connected with union shops, 20 per cent were under contracts providing for maintenance of membership, and 30 per cent were under agreements without membership requirements of any kind. The task ahead for union leadership, under the increased responsibility implied by these figures, is to avoid such monopoly practices as restrict production and reduce the national income and at the same time to protect the gains which have been made.

CHAPTER THIRTY-FOUR

Unemployment and Business Fluctuations

IN THE sense in which we today use the term, unemployment is a phenomenon of an exchange economy and especially of a highly industrialized economy. In the simplest conceivable market, one in which goods are offered for goods, each commodity produced becomes not only a part of the supply offered for sale but also in itself a demand for other goods and therefore for more labor. True, some laborers or groups of laborers may by miscalculation create goods which no one wants, in which event their labor will for a time create no demand for the labor of others, but such errors of judgment can be and will be quickly remedied. Under such conditions there will be no unemployment of lasting or serious nature. To such conditions the "law of the market" enunciated by the economist J. B. Say in the early years of the nineteenth century is applicable: "The general market demand must equal the general market supply." Obviously, however, this is far from a realistic picture of our present exchanges. In an economy in which there is a high degree of specialization, in which exchange is carried on by means of money or credit, in which goods are produced in immense quantities by laborers who offer in the market their labor rather than the products of that labor, in which the market may be remote from the producers in time and space, in which many are engaged in manufacturing not goods for the consumer but machines for a producer who is making a long-time guess as to what the consumer will want, and in which the national income is distributed by means of wages, interest, rent, and profits, something has gone awry with the simple law of the market. Labor may never become a demand for further labor, or may do so intermittently and uncertainly. As our economic system has grown in complexity it has become more and more difficult to achieve the stability of a subsistence economy or the full employment which, theoretically, a competitive system should approximate. Instead unemployment bids fair to become the curse of modern capitalistic industry. Indeed, if capitalism cannot end it, it threatens to end capitalism, or at least to end certain of the characteristics which we have considered fundamental to capitalism.

In discussing the unemployed we are not dealing with the unemployable—that is, those physically or mentally sick, hopelessly incompetent, or incur-

ably lazy. This small fraction of our population constitutes a problem quite unconnected with unemployment, by which is meant the situation of those who do not work because there is no work for them to do. To employ the familiar census test, the unemployed are those who are idle though they are able to work, willing to work, and asking for work. Such unemployment, no matter what its explanation, is always and everywhere a failure to use to the full our available productive resources and is therefore a cause of reduced income and incalculable social loss. No economy is achieving the maximum of satisfactions for its people so long as it has an unsolved problem of unemployment.

Unwelcome as is the thought, we are discovering that involuntary unemployment is a continuing fact in most advanced capitalistic countries, including America, however out of harmony it may be with American tradition. According to the estimates of Professor Douglas, the annual average amount for all industry during the years 1897 to 1926 was about 8 per cent, with no pronounced tendency to increase or decrease during the period. At no time save during the war years did he find it less than 6 per cent[1] in manufacturing, transportation, mining, and construction; in the depression years 1920–1921 it rose to 20 per cent. In the decade of the thirties unemployment reached wholly new levels. The indications are that at the bottom of the depression, in 1932–1933, almost one third of all our gainfully occupied population was out of work.[2] The full employment of the war carries no assurance that it can be maintained in postwar years.

Traditional treatment of production and distribution has rested on the assumption that all productive agents are fully employed and that their full utilization has been brought about by price adjustment (notably that of wages and interest, the price of labor and capital). The implications of this assumption are set forth in Chapters Twenty-five and Twenty-seven. It excludes the possibility of permanent unemployment by assuming that a right adjustment of wage rates to other changing conditions of demand for and supply of goods produced by labor will always cause all labor to be utilized (admitting the effect of temporary frictions). The persistent and heavy unemployment in Great Britain in the twenties, for example, has been explained on the ground that artificially high wage rates were maintained by trade-union and government action. At such rates the employment of labor was not equal to

[1]This figure included absence from work because of illness. It should be remembered that the United States had no official and inclusive figures for unemployment, and all estimates must be accepted with caution.

[2]In January, 1931, a special census of unemployment was taken in nineteen cities. It was found that unemployment had increased 149 per cent since April, 1930.

the amount offered. Many economists, however, are finding it necessary to re-examine the validity of the assumption that full utilization of all productive agents can be assured by the competitive pricing process and that right wages will therefore prevent unemployment. If unemployment becomes the normal, and full employment the exceptional, condition of our economy, its causes will certainly demand far more penetrating study than economists have as yet given them. In Chapter Twenty-five the student will find suggested reasons why labor prices (wage rates) do not perpetually, indeed do not ever, overcome the disequilibrium between demand for and supply of labor and bring about full employment, that is, employment of all labor willing to work at the prevailing wage rates.

The accepted treatment of unemployment, taking cognizance of well-known facts, has divided it into four sorts: casual, seasonal, technological, and cyclical. The first two, to be dealt with briefly, differ from the last two, as to both causes and cures. To these might be added what has been called frictional unemployment, the temporary unemployment of those who are changing jobs or waiting for materials or for the installation of new machinery. Idleness from such causes presents no particularly difficult problem, and need receive no special consideration here.

Casual Unemployment

Casual unemployment is the obvious result of casual need for labor, no matter what the wage. It is admirably illustrated by the demand at the docks of a large seaport. A ship comes into a particular dock and hundreds of men are wanted to unload and reload her, immediately if she is a liner running on schedule; more slowly if she is a tramp without a fixed and exigent timetable. In either event the number of men wanted will vary with the size of the cargo to be handled and the time the vessel is to be in dock with charges running against her. Days of feverish activity on the particular dock may alternate with days when no ship is in and no men are wanted. Yet the dock must somehow have available enough men to meet the need for labor at its peak. The same thing holds true of every other dock in the port. If each dock hires its men individually, each will tend to attract to itself what has been called "a stagnant pool of labor," a group of men who hang about a particular dock on the chance of getting a job but who can get at best only casual part-time employment because of the irregular need. If 500 men are habitually attached to a dock, although every second day but 400 are needed, 100 men are out of work half the time. But if only 400 men were at the dock, on alternate days there would not be enough to handle the business of the day. Because of the

irregular nature of the work there must always be unemployment if there is to be a labor force adequate to meet the need at its peak.

In the port as a whole the need for labor is markedly less irregular than at any particular dock. If, therefore, all the docks of a port could be united into a single labor market by means of a common hiring hall or its equivalent, through which each dock hired the men it needed, the amount of labor required to operate them would be definitely less than under separate hirings, and the amount of unemployment in the port would be reduced by so much, so far as dock labor is concerned. Under an organized hiring system perhaps 15,000 men in a port depend on the docks for work, though on the busiest day not more than 12,000 are ever at work in the whole port, and if the work could be spread evenly throughout the year 10,000 could do it. Under these circumstances the docks inevitably create 5000 man-years of unemployment annually. By better organization of the labor market the number of men needed could be reduced to 12,000 and the annual creation of unemployment could be lowered from 5000 to 2000 man-years. If the variation between the average and the maximum requirement of the port as a whole is purely fortuitous, the annual unemployment could by no possibility be reduced below 2000 man-years.

This single example, perhaps, has sufficiently illustrated casual unemployment and the possibility of reducing it. By a better organization of the labor market the shrinkage of employment in one establishment may be counterbalanced by its simultaneous increase in another. In so far the total number of workers may be reduced, the number having regular work increased, and the number suffering from irregular employment decreased. In so far, however, as the variation in demand in any industry as a whole is purely fortuitous, some unemployment in that industry is unavoidable and becomes a cost of the industry, which in a competitive society we should expect to find passed on to the consumer in the price of the goods, as are other costs. Observation suggests that until recent times such costs have been borne largely by the workers themselves rather than by the consumers for whose benefit the industries operate.

Seasonal Unemployment

Seasonal unemployment is similar to casual, but is more calculable. The succession of the seasons causes an inevitable physical irregularity in some industries; in others some slight degree of seasonal fluctuation imposed by nature is strongly reinforced by social causes. Industries in which year-round production is prevented by weather conditions bring their supply into existence

irregularly; where social customs cause seasonal differences, it is the irregularity of demand which creates irregular production. Wheat-harvesting must be limited to a few months of the year; candy-making could go on all the year round at the same rate if the demand could be made more regular. In the former group a measure of unemployment seems inevitable; in the latter, employment also follows a definite rhythm, but here the fluctuations are those imposed by the tyrannical requirements of fashion, which practically compel producers to compress their operations into periods sometimes measured by weeks. All such influences, whether imposed by nature or by custom, are responsible for a series of employment peaks and valleys.

The comparative calculability of seasonal changes renders seasonal unemployment susceptible to remedies that are unavailable in the field of casual unemployment. This is true in a measure even of the unemployment imposed by nature itself, though workable remedies will vary in the two classes of seasonal industries. Since the first World War the attention of businessmen has been persistently called to their responsibilities for regularizing production, and many interesting experiments have been undertaken. By means of business planning substantial progress has been achieved in cutting down seasonal unemployment in some lines where previously it had been considered inevitable. In those rare instances in which production facilities can be shifted from one product to another, and where the dull season for one is the more active season for the other, complementary products can be developed. The familiar combination of the sale of coal and ice by the same concern is an example of the kind of dovetailing of different lines of production that is possible. Some business establishments have trained their workers to perform different operations, the second of which could be substituted when the first was not needed; others have gone to heavy expense in the development of technical methods and in the provision of storage facilities to make possible year-round production. Businessmen have tried to educate their customers to place their orders as far as possible in advance, and have tempted them with out-of-season discounts and other inducements to stock up at slack times. A few uncommonly intelligent trade-unions, whose stake in the regularization of employment is evident, have played no mean part in such efforts, in some instances, indeed, going so far as to agree to lower off-season wages—a measure of dubious general utility. Perhaps most important, they have sought a guaranteed minimum number of weeks' employment each year, or a guaranteed minimum yearly wage of some sort.

These latter arrangements are valuable not alone because they put pressure on employers to regularize operations, a pressure that manufacturers transmit indirectly to merchants and perhaps ultimately to retail buyers, but because

they embody the principles on the basis of which it seems fairly clear that an enlightened society will finally deal with seasonal unemployment. That is, it will encourage every possible effort on the part of business management, laborers, and consumers to stabilize plant operation and, consequently, employment. It will do everything possible to aid not only in the dovetailing of seasonal operations within industries but, to the limited extent to which such action is possible, in the dovetailing of occupations in the person of the individual worker. When this has all been done, there is no escaping the fact that, after such efforts, the stubborn residuum of seasonal unemployment must be considered an inevitable cost of industry.

In treating casual and seasonal unemployment we have been concerned, at bottom, with an identical cause. Both are created by irregularities in the operation of industry. Such irregularities exist irrespective of whether the markets of a country are expanding and its production increasing or whether its markets are stationary or declining and its production stable or decreasing. To a certain extent such irregularities can be done away with; to a certain extent they can be offset one against another in such fashion as to give the workers continuous employment. Every possible encouragement should be given to efforts to reduce them, not only for the sake of the workers involved but for the benefit of the consuming public, which gains through the enlarged production brought about by fuller utilization of the available labor force and the equipment which it operates. This done, payment for the remaining unavoidable unemployment (undoubtedly large) must be regarded as a necessary cost of the industry in exactly the same way that wage payments for labor necessarily used (instead of necessarily wasted) are to be considered essential costs. Even though workers can be utilized but two or three days a week or but eight or nine months a year, they must subsist for seven days and for twelve months and their subsistence is necessary to industry. In the words of Sir William Beveridge:[3]

"An industry is not self-supporting unless it yields wages not only for the time of employment but also for the time of inevitable unemployment as well —unless it maintains all the men required by it both while they are in active service and while they are standing in reserve."

Once society accepts their livelihood for twelve months as a part of the cost of industry the result in general will be for the price of the good produced to cover the increased wage bill, though there may be times when it would be a social advantage for the government to subsidize some seasonal and perhaps

[3]Sir William Beveridge, *Unemployment* (Longmans, Green and Co., 1930), p. 236.

some casual industries. This is the essential meaning of the simple but weighty words of Beveridge: "Unemployment remains . . . a problem of industry, not an Act of God." We make no effort here to minimize the innumerable practical difficulties involved in working out solutions based on the principle that unemployment is a cost of industry, nor do we touch on the companion problem of evaluating the extra leisure that seasonal workers enjoy.

Technological Unemployment

In dealing with technological and cyclical unemployment we reach crucial problems and plunge into theoretical difficulties more puzzling than any involved in the consideration of casual and seasonal idleness. In this economic area no one knows a great deal and every responsible person hesitates to make dogmatic statements. The student, therefore, is warned to keep in mind that the following pages attempt only to present in the light of our historic development certain facts of our present economic situation, to place them in a theoretical framework, and to draw from them such conclusions as they seem to the authors of this book to warrant. There is no pretense of setting forth "the truth" about these two forms of unemployment.

The cumbersome term "technological unemployment" has come to be used to cover unemployment occasioned by changes in the technique or the organization of industry. In popular thinking it means that machines have put men out of work. The power loom, the linotype, and the cigar-molding machine put hand weavers, typesetters, and cigar-makers in large numbers on the street. The introduction of the continuous hot-strip mill for the rolling of steel sheets is abolishing 85,000 jobs in that industry. In 1936 welding machines and three men were doing what 18 men had done in 1930; a single automatic buffer in a hardware plant displaced 150 workers. If otherwise desirable railroad consolidation could be brought about in this country without respect to the effect on labor, the improved organization would lessen by hundreds of thousands the number of men required to run the roads. A project for the co-ordination of terminal facilities in Kansas City alone if carried into effect would cause the displacement of 1700 employees.

No sooner do we begin to investigate technological unemployment than it becomes evident that the application of the term cannot be limited to groups of workers directly displaced by labor-saving devices installed in their own plants or their own industries. Changes in technology have reduced the amount of coal necessary to generate a given amount of power and have increased the use of competing fuels. The impact of these improvements is not limited to employment in the industries where the new methods are in use

but extends to the employment of coal miners. In a block of counties in southern Illinois 36,000 miners were at work in 1923, in 105 mines; by 1937 but 12,500 were employed, and but 40 mines were worked. During the very years in which other industries reduced their demands for coal, within the mining industry the man-day output had increased from 4.9 tons to 8.8 tons. The result of this combination of forces was to throw 200,000 miners out of work in the prosperous years between 1923 and 1929, and to scatter depressed, or "stranded," communities throughout coal-mining areas.

The textile industry also offers illustrations of stranded communities and unemployment which are only in part the result of technological changes within the industry itself. For example, New Bedford in 1920 employed 34,000 textile workers; in 1938, 8000. The explanation of this decline is to be found partly in the shift of the industry from New England to the South, partly in the competition of new products, partly in the effect of cyclical depression to be considered in the next section. When the Amoskeag Mills were closed in Manchester, New Hampshire, 17,000 persons lost the opportunity for employment. Three years later (1938) 29 per cent of Manchester families were on relief rolls. Here again the unemployment resulting from reorganization and relocation of the industry cannot be disentangled from the unemployment of the business cycle.

The introduction of labor-saving machinery and the adoption of better organization requiring less labor go forward unceasingly. Technological unemployment seems at least the temporary condition of an increasing number of workers, whatever may be their proportion to the total number of employed. Labor-saving improvements of all kinds mean a lessening in the amount of labor required per unit of physical product. Otherwise the improvement would not be labor-saving. It is mathematically certain that unless an expanding market makes it possible for the volume of production to increase in proportion to the decrease in the necessary amount of labor per unit of product, the total amount of labor required must decrease. If 100 men once turned out 100 articles per week and now 10 men can turn out 100 articles per week and 100 men can turn out 1000 articles, either there must be a market for the 1000 articles or 90 of the original 100 men will no longer be needed. If the market cannot be increased, if the working time of the 100 men is not reduced, if the population does not decrease, unemployment must result and must continue until the market expands enough to take up the slack. Certain nineteenth-century optimists demonstrated by a process of reasoning that no permanent unemployment was created through the introduction of machinery. Twentieth-century optimists have been disposed to point to the facts of nineteenth-century production as sufficient proof that the machine does not

bring unemployment in its wake. The reasoning of the first group went thus. The production of more goods per unit of labor reduced the cost of goods. In order to sell the increased volume of goods produced by the machines, this reduction in costs must be passed on to the consumer in lower prices. Purchasers could buy more goods with the same amount of money. Two influences were thus at work to prevent unemployment. Larger sales made possible the continued employment of some of the threatened workers. In addition, consumers able to procure what they desired of the machine-made product in return for a smaller proportion of their incomes had a surplus of income which could be spent for the products of other industries. As the machines superseded workers in some industries the displaced workers would find employment in these other industries, where there was an increasing demand because of the surplus purchasing power. Lastly, it was argued that some of the displaced workers would be needed to make machines. It was of course agreed that machines must not be installed too rapidly, as the displaced workers in one industry could scarcely find occupation in another if the second industry as well as the first was in process of technical improvement. If the amount of labor required to produce a given quantity of goods was being reduced in many industries at the same time, only most extraordinary expansion of markets could prevent resulting unemployment. The argument that the displaced workers are re-employed in machine-making, or perhaps in selling the product which they once made, must be used with caution, for the contention that the new machines will not create unemployment rests at bottom on the assumption that greater sales will follow the introduction of machine processes because costs and prices will be reduced. If for any reason whatever, such as an increase in selling costs because of the employment of more salesmen, costs and prices are not reduced, then there will be no ground for arguing that sales will expand. This argument assumes an increase in sales without positing any change in demand. When the twentieth-century writers cite the expansion of the market as the reason for expanding employment, they usually mean all this and more. They include the geographical enlargement of the market by the improved facilities for transportation and communication, the increased exploitation of natural wealth which added to purchasing power, and the great increase in population of that century. These influences brought about vast increases in demand which helped to absorb the increasing stream of products pouring forth from the machines. It is impossible to separate the effects of the two influences, but it is necessary to keep clearly in mind that there were two intermingled but distinct forces at work, the reduction of costs and the increase in demand. The second was as notable a feature of the nineteenth century as the first.

Much of the increase in demand might be said to have come from the fringes of the system. Volume of production and factory employment in Great Britain in the nineteenth century rested in large part on foreign markets. The growth of manufacturing in the United States offers a similar phenomenon. Here, as our economic frontiers pushed westward, a growing population, exploiting the rich natural resources which they found, provided the market for expanding manufactures. Farmers occupying the three million square miles of territory under the American flag made it unnecessary to search for foreign markets. Unemployment when it arose was a short-lived phenomenon. Both foreign customers and frontier farmers illustrate what we mean by customers on the fringes of the capitalistic world; the expression is economic, not geographic. A highly profitable exchange provided the necessary link between producers who were expanding manufactures by machine industry and producers who were exploiting new natural riches, and gave a generous living (as compared with that of other countries) to both.

Continuing technical progress means continual increase in production per capita. To maintain employment the volume sold must therefore continually expand. It can expand only if the producer can sell at profitable prices; otherwise he must restrict production and thus create unemployment. Therefore, to enjoy the benefits of continuing technical progress without suffering the evils of technological unemployment, a society must be able and willing to distribute among its members a vastly increased volume of goods. From the point of view of employment—though not of social welfare—it makes no difference what the goods are. The making of armaments provides employment just as truly as the making of shoes and the building of houses and hospitals. The years 1940 to 1945 offered a remarkable demonstration of the possibility of eliminating unemployment by the assurance of a market for all that can be produced. But this does not answer the practical questions of a peacetime economy. Can we, in the face of increasing progress in machinery, methods, and organization, create economic conditions (price and cost relations) such as to call automatically for the production of the physical quantities of goods required to afford full employment to the working population? Can we generate within the system the purchasing power necessary to take off the market the goods which we are able to produce and must produce if unemployment is to be escaped? Or can producers find customers on the edge of the capitalistic world who will absorb the threatened gluts? Of the second question we can only say that near the middle of the twentieth century the process of easy expansion of foreign markets appears to be, relatively speaking, at an end. No one would deny that many economic areas are still unconquered, but their penetration promises to be far more difficult than nineteenth-

century trade expansion. Within our own boundaries the reduction in the rate of population increase cannot be ignored. All in all, it is not likely that the combination of circumstances which so greatly increased our domestic demand in the nineteenth century is likely to be repeated in the twentieth. It is such subjects as these that economists debate when they endeavor to determine whether ours is a "mature economy."

What of the first question? Traditional theory has, as we have seen, rather incontinently answered this question with a Yes. Current observation, perhaps incompetently but nonetheless positively, answers No. Studies of recent years, notably those of the Works Progress Administration, trying to supplement general reasoning by definite knowledge, have shown that a large proportion of the displaced workers investigated suffered permanent injury. If the man thrown out by the machine is fortunate enough to find a new job, it is likely to be poorer than the old one. To say that there is displacement of and permanent injury to individual workers, however, by no means answers the fundamental question. Many men might be thrown out of work by the installation of specific machines and might never regain their places in the productive system, while at the same time the total volume of employment was steadily growing. About the fact of unemployment for the individual there is no special controversy, but about the long-time effects of the rapid mechanization of industry there is still disagreement, with a considerable body of competent theorists disposed to take issue with the older opinion.

The immediate effect of technological advance will probably be the direct displacement of workers and a change in the character of the labor required in the industry which is immediately concerned. It may also create unemployment in allied industries. It may create competitive rivals and thereby eliminate or reduce entire industries; it may cause a shift of location which will leave stranded communities where flourishing manufacturing towns once existed. These are problems which involve more than the absorption of a larger volume of goods, which is too often conceived to be the answer to technological unemployment. Present thinking on that narrow aspect of the subject may be thus summarized. The amount of product that can be turned out depends on our natural resources and our technical methods; the amount that will be turned out depends on the amount that can be sold at a profit. Demand, as we know, rests on wants and purchasing power. In view of the almost indefinite expansibility of wants the ability of any market to absorb goods of all kinds must be thought of as limited not by a lack of wants but by a lack of purchasing power on the part of those who constitute the potential market. Give them purchasing power and, in any productive system not directed by madmen, producers taken as a group could and would buy all that they had

produced. The problem of long-time technological unemployment seems in essence a problem of the distribution of income. Most remedies suggested are palliatives intended to cushion the immediate effect of technical advance on specific groups by careful timing of the installation of new machines or by re-education of the workers. Such measures are helpful, but they leave untouched the long-time problem.

The Business Cycle

To the present generation it will not be necessary to explain that we have not abandoned the subject of unemployment when we turn to the business cycle, for during the decade of the thirties the term suggested little but depression and unemployment. Though there is more to a cycle than the single phase with which we were distressingly familiar after 1929, it is chiefly the difficulties of this phase which have concentrated attention upon the cyclical fluctuations of production and employment. The words imply changes quite apart from seasonal variations or those immediately contingent upon new technique or changing organization. The recurrence and severity of such changes have made them a matter of grave concern not only to students of economics and to businessmen but to all the receivers of income, which is to say, to all of us. When we say, as we did at the beginning of this chapter, that unemployment threatens to modify the capitalistic system, it is the unemployment of the depression period that we have in mind, admitting that we cannot disentangle that from the unemployment which may be the result of rapidly changing technology. It is because of the suffering, the insecurity, and the wastes that accompany periods of depression that we venture to predict that the future of the capitalistic system depends upon finding some way of avoiding such catastrophic changes as those characteristic of the phenomena which taken together we call the business cycle.

Throughout the nineteenth century the United States, along with much of western Europe, experienced many such fluctuations, of varying length and intensity and usually designated by the panic year. The panics of 1837, of 1873, and of 1893 are familiar landmarks to the students of American history. They were not isolated American phenomena, however, but were linked to English and European trade fluctuations and seem a characteristic of growing industrialism. The twentieth century has been subject to similar and possibly more severe economic disturbances, though we cannot make dogmatic assertions as to severity. Our quantitive measures are comparatively new, and few of them can be applied to the cycles of the past. They involve the measurement of as many as possible of the elements which make up the sum of business

activity: volume of production and sales (both wholesale and retail), accumulation of stocks of goods, car loadings, lumber shipments, factory pay rolls and variations in employment, electric-power production, construction work, steel contracts, cotton-mill operations, and the production of specific commodities such as pig iron, steel ingots, and automobiles. On the financial side the progress of a cyclical movement is gauged by price movements, by new security issues and stock-exchange transactions, by the volume of loans and discounts and the interest rates. Some of these facts can be ascertained for nineteenth-century cycles, but not many. Statistical study of cycles is largely limited to those of the present century.

Phases of a Cycle

Controversial as are most of the questions which arise with any attempt to analyze the cycle, there is small dispute over the character of its recurring phases, which we shall designate as expansion, recession, contraction or depression, and revival, though various other names in use are equally satisfactory. What we are actually saying here is that periods of business expansion end in collapse. The collapse is followed by contraction and a slow return to prosperity. There is no fixed pattern, the same in every cycle, but the outstanding characteristics of each phase of the various cycles are sufficiently alike so that a generalized picture does not do great violence to the facts.

The period of expansion finds entrepreneurs, imbued with the idea that there are profits to be made, placing new orders for raw materials and putting more men to work. We may assume that at this point the facilities for production are not completely utilized. If this is true the new orders may not immediately raise prices, but before long the pressure of new demand is bound to push some prices up. The increased buying of the newly employed wage-workers will contribute to this upward movement. While some prices move up others do not change, or change slowly, and the existing price relationships are shattered. Many costs fail to move, and the margin between costs and selling prices widens. The enticing opportunities for profits thus created tempt more businessmen to enlarge old businesses or to launch new ones. Real investment—that is the increase of factories, equipment of all sorts, and stocks of material—goes forward rapidly. To meet new needs bank credit is expanded. Exaggerated hopes send stock prices up and precipitate real-estate booms. All these influences are cumulative; once started, each quickens the pace of the others. The period might be called the day of great expectations.

On the surface it looks as if this acceleration might go on forever, but there are influences at work which bring it to an end. With the increased demand

of entrepreneurs for the agents of production, scarcities are bound to develop. The bottlenecks may be the supply of skilled mechanics, or they may be building materials or some necessary metal. Wherever they occur prices will rise farther and faster than the general price level. Also, certain fixed costs which have been slow to change will at length move upward until they overtake the level of general prices. That is, taxes, rents, and fixed salaries will be adjusted to the new price levels. Interest rates will rise, and the gap between costs and prices will lessen. Profits and the hope of profits are thus diminished. More than this, as prices rise consumer buying slackens, especially that for durable goods which do not need to be speedily replaced. The same slackening is to be observed in the purchase of durable producers' goods; that is to say, real investment slackens. Stocks of goods pile up. To move them merchants must spend more in advertising or resort to installment selling. In either event their selling costs are higher, their profits less. Bankers grow nervous and refuse to expand loans. This forces producers and merchants to call in their own loans or to dispose of stocks of goods hastily and perhaps at ruinous prices in order to obtain money quickly. Here and there firms which have overextended their businesses fail. Every failure brings other failures nearer. Unemployment spreads as concerns contract their production, sometimes with panic speed. Each new group thrown out of work tends to lessen the consumption of the community and to create more unemployment. Fewer purchases from the shelves of local merchants mean fewer orders to wholesalers and manufacturers, fewer freight-car loadings, fewer machines manufactured. Optimistic hopes for the future give place to gloomy forecasts. The prevailing gloom is reflected in stock-market transactions and in an absence of new investment. Again the influences are cumulative, each one accelerating the downward movement of the others.

This period of change—when optimism gives way to pessimism, when prices cease to rise, bank credit to expand, and volume of sales to grow—is followed by months, perhaps years, of falling prices, decreasing business activity, and increasing unemployment. Again the price structure is disrupted, some prices falling rapidly and others remaining at their old levels. Rents, taxes, insurance rates, interest payments, which move upward slowly, also move down sluggishly. Trade-unions exert all possible pressure to prevent wage reductions; fixed salaries remain for a long time at the higher level. Under the new cost-price relations profits disappear and there is little incentive for new ventures. Just as there seemed on the surface no reason why expansion should come to an end, there now seems no reason why contraction should not continue indefinitely, since every influence at work apparently makes for further contraction.

Yet the turn does come. Clothing wears out, furniture must be replaced, the old automobile will no longer serve, stocks of goods are exhausted, housing grows scarce, factory repairs and the installation of new machines can no longer be postponed. Wages, in spite of trade-union efforts, have been forced down by the wide spread of unemployment. Rents, salaries, interest payments, and taxes have been adjusted to the new price levels. That is, costs have at last reached levels which hold out hope of profits. Idle funds, accumulating in the banks, make the expansion of bank credit easy. Somehow the upward change comes. New investment sets industry to stirring once more. Bank loans expand, factory pay rolls grow, consumer buying mounts, stock-market prices rise. The cycle has gone the round as revival moves into expansion.

Fluctuations in the Twenties

Many points in this description find illustration in the fluctuations in business activity in the United States between the two World Wars. In 1918 prices were high, and in the months immediately following the armistice they went higher. Bank loans, the prices of common stock, and the volume of employment also continued to rise. In August, 1920, there came a sharp drop in commodity prices, along with other characteristics of a recession period. The index of wholesale prices fell from 167 in July, 1920, to 93 in July, 1921; the index of farm prices, from an annual average of 151 in 1920 to 88 in 1921. The iron-and-steel industry, working at 77.5 per cent of capacity in 1920, fell to 35.6 per cent in 1921, and the index number of employment in iron and steel moved from 109.8 to 59.8. The drop in the production of durable goods in general was from an index of 93 to one of 53, and in nondurable products from 60 to 57. Factory employment went from 108 to 82 and pay rolls from 117 to 76 (1923–1925 = 100). New capital investments, which in 1920 were $213,000,000, dropped to $141,000,000. Surprisingly, instead of passing through the slow process of contraction and recovery usual in major cycles, business activity had almost completely revived by the beginning of 1922. Indeed, there were hardy optimists so rash as to suggest that the improved banking machinery provided by the Federal Reserve System had put an end to depression periods. Though there were minor recessions in 1924 and 1927, the years from 1922 to 1929 were on the whole years of marked prosperity. The index number for industrial production increased from 67 in 1921 to 119 in 1929; for factory employment, from 82 to 105. The national income reached and passed 80 billion dollars; and the per capita income was $673 in 1929, surpassing all previous records. The most startling change was in new capital issues, which in 1929 reached $666,839,000. Unemployment dropped from

6.8 per cent of the labor force in 1922 to .9 per cent in 1929. There was, however, serious unemployment in certain basic industries, notably mining and textile manufacturing. It is to be observed also that income-tax returns for these years indicate that large incomes were increasing much faster than small ones, which is another way of saying that the relative share of labor in the national income was declining. Contrary to the general description of expansion, commodity prices did not show an upward movement of any importance, a fact which was often cited to prove that there was no undue business expansion. On the other hand, though this was a period of falling costs, prices did not decline with costs, and profits were large. To a considerable extent these profits found their way to the stock exchange, where security prices rose steadily until the autumn of 1929, when the index of common stock prices reached 310.

The collapse of the stock market in September and October was followed by the usual phenomena of recession and contraction. The index number of industrial production fell from 119 in 1929 to 64 in 1932. The national income produced in 1933 was but 57 per cent of that of 1929, a drop which reflects both actual decline in production and the fall in prices. The index of wholesale prices fell from 95.3 in 1929 to 64.8 in 1932. Capital flotations dropped rapidly. For 1930 they were little more than half the 1929 figure; for 1932, $27,113,000; and for 1933, $13,382,000. Net capital formation, which had been over six billion dollars in 1929, dropped to one billion in 1930, and in the five succeeding years was represented by a deficit, which in 1932 was over four billion dollars.

The general optimism which had prevailed between 1922 and 1929 had induced vast borrowing on the basis of future expectations, and in the face of the rapidly declining prices the burden of debt on individuals and corporations alike caused default on all sides. After more than five thousand bank failures the general closing of the banks in March, 1933, gave time for emergency measures to be devised intended to save the banking structure from complete collapse. Most serious of all, unemployment, according to the best estimates obtainable, by 1933 had reached something little short of twelve millions.[4] Indeed there were those who placed it near fifteen millions. The magnitude of the relief problem created by this loss of wages was staggering. The resources of private charity were soon hopelessly inadequate, and as unemployment persistently spread those of local governments were exhausted. In some of our industrial cities where factory production was well-nigh at a standstill, one fifth of the population was on relief and relief funds were dwindling rapidly. In spite of the efforts of trade-unions, and the co-operation of many intelligent

[4] *Economic Almanac*, 1940, p. 110.

and generous employers, unemployment drove many wages down to starvation levels. All the accelerating forces of contraction were at work to make bad conditions worse. We can follow the events after 1932 with greater understanding if we here turn back to our general picture and see to what extent students have given us explanations and suggested remedies for the conditions existing between 1929 and 1932.

The Durable-Goods Industries[5]

In our description of the recession reference was made to the slackening of purchases. Before we proceed further we need to make this idea more precise. Human wants do not change sharply in amount from month to month or from year to year. It took approximately the same amount of food, of clothing, and of housing to provide for us in 1932 that it took in 1928 or in 1945, and we should expect to find and do find that, within the income limits, the purchase of consumers' goods for immediate needs changes little. But we must make a distinction here. Consumption of perishable goods is relatively stable, and the fluctuations of production in industries providing such goods are therefore relatively slight. When we turn to the demand for durable consumers' goods, however, we find a somewhat different situation. Decrease the family income and the family will still eat, but the old car will serve another year, the new furniture will not be purchased, the dining-room will not be redecorated. As a result the makers of furniture, of automobiles, and of paint and paper will sell fewer goods and will curtail employment and reduce orders for raw materials and plant replacement. If such commodities as these are produced under highly competitive conditions, we should expect from our study of price determination to find price reductions considerable and the reduction in the volume of employment slight; if, on the other hand, conditions of monopoly or limited competition prevail, we should expect to find price reductions slight and reduction in the volume of production, and therefore in employment, large. Industries turning out capital instruments show even sharper changes in demand than those making durable consumers' goods. These goods are wanted by business enterprises solely for productive uses. Each year a part of the production of capital goods must go to replace facilities which have reached the end of their usefulness, part for the enlargement of equipment to meet increasing demands for consumers' goods (either perishable or durable). Cut down the demand for these goods and replacement needs and expansion needs are both reduced. A simple arithmetical example will make the point

[5]A review of that portion of Chapter Twenty-four which deals with the different concepts of the national income will be useful here.

clear. Assume that each year 20,000,000 men's hats are sold, produced by 20,000 machines, each of which can in a year make but 1000 hats. If the average life of the machines is ten years, then 2000 machines must be produced each year for replacement if the productive plants are not to be allowed to deteriorate. Suppose that the market for hats increases by 5 per cent. It will now take 21,000 machines to make the hats. In addition to the 2000 machines for replacement, 1000 must be made for expansion. A 5 per cent increase in the sale of hats has increased the machine-making industry by 50 per cent. If instead of expanding, hat sales had fallen off by 1,000,000, then it would have been unnecessary to make any machines for expansion. Further, but 1000 of the machines for replacement would be needed. This illustrates the highly sensitive and sharply variable nature of the demand for capital instruments. The greatest fluctuations in employment are thus to be found in these industries.[6]

Nowhere is the instability of such production better illustrated than in the output of steel. According to the figures of the American Iron and Steel Institute, this industry in May, 1929, was operating at 106 per cent of its theoretical capacity; in July, 1932, at about 15 per cent. From 1930 to 1938 its operation averaged less than 50 per cent, while in August, 1941, it reached 99 per cent of estimated capacity. With these fluctuations in production went similar fluctuations in employment: in 1929 the index was 98.7; by 1932, 65.3; by January, 1940, 114. Between August, 1939, and August, 1940, approximately 100,000 workers were added to the pay rolls, the change in production between the two months being about 20 per cent. Though the steel industry is an outstanding example of cyclical change in a capital-goods industry, it is by no means a solitary example. Industries running seriously below capacity mean unemployment. Unemployment forces the idle workers to cut down their expenditures. As we have seen, their first and greatest economy will be in their purchases of durable consumers' goods. Increased unemployment will follow in these industries. With the rising living standards of the past half-century the purchase of durable goods has extended to a large part of the population, and their production has become a much more important part of total production than it was in the nineteenth century. In 1879 they constituted 31 per cent of our output of manufactured goods; in 1929 they were 44 per cent of the total. By 1933 they had fallen to 27 per cent. The instability of such industries is illustrated further by the monthly index of manufacturing production between 1919 and 1938, compiled by the Federal Reserve Board. This shows the comparative steadiness of the production of

[6]See Paul H. Douglas, *Controlling Depressions*, pp. 13–15, for a more elaborate demonstration.

nondurables as against the striking gyrations of that of durables, here including both consumers' and producers' goods. From its high point in April, 1929, to its low in June, 1932, the production of nondurables fell one third; that of durables, no less than four fifths. The index for durable-goods production dropped from 133 in 1929 (1933–1935 = 100) to 99, 68, and 41, respectively, in the three following years. Modern depressions might well be called durable-goods depressions.

That the unemployment which results from the instability of the durable goods' industries (consumers' and producers') constitutes the great unemployment problem of the business cycle is undeniable, but there is in that fact itself no statement of cause. We have discovered merely that when the demand for goods declines, the first and greatest decline is that for durable goods. Indeed, in all that has been said to this point there has been no suggestion of originating forces. The economist, however, must do more than describe. He is in search of causes. Any exhaustive review of the vast literature which has resulted from the search is outside the province of this volume, but we must understand the general character of a few of the explanations that are put forward by students of theory if we are to comprehend the economic changes of our own society since 1929.

Business-Cycle Theories

Monetary Theories · How have the economists explained cyclical fluctuations? Given the complex relationships of credit and prices, of savings and spending and income distribution, it is not surprising that as yet they have come to no general agreement. This is not to say that they have given us no help in understanding the cycle. Each explanation contributes something to our fuller comprehension. One group of theories we may designate as monetary theories. In general their advocates find the variations in business activity accounted for by variations in the flow of money. If there is less money, demand falls off and recession and contraction follow; if there is more money, demand is quickened, prices rise, production increases, and the unemployed are absorbed in industry. Since the elastic element in our money is chiefly bank credit, it is, then, the expansion or contraction of credit which must be considered the active force in the cycle. If we start from a condition of equilibrium, any increase in consumer outlay will cause an increase in demand for goods and thus set in motion the familiar elements of expansion. And the cause of the increase in outlay, most advocates of monetary explanations would say, is to be found in credit expansion on the part of the banks. The characteristics of the expansion period will continue at accelerating speed until the

bankers refuse to extend credit further, thus initiating contraction. About the effects of expansion or contraction of credit there is little disagreement. The distinctive point made by the theorists who hold some form of this explanation is that the originating force is the change in bank credit.

Underconsumption or Oversaving · The second group of explanations have as their core the maladjustment between the proportion of the national income saved and that spent for consumers' goods. As goods are created the purchasing power with which to buy them is also created. If the net value of goods turned out in a given period is 100 billion dollars, then 100 billion dollars must be spent for goods. Part will be spent for consumers' goods, part for producers' goods with which to make more consumers' goods. All goes well for a time; but as the facilities for making consumers' goods are increased and more and more are poured forth, there is not sufficient purchasing power with which to buy them. Savings have been too great; consumption is not large enough—whichever way one wishes to put it. To some who hold this belief, here offered in a highly simplified form, oversaving is the result of the inequalities of income which force the wealthy to save; others find saving inevitable no matter what the distribution of income, and search for a remedy which will continue it but abolish its dangers.

Savings and Investment · Before we enter upon the consideration of a third explanation of fluctuating production, we need to revert to certain of the points made in Chapter Twenty-seven. The orthodox theory which saw the interest rate bringing the supply of and the demand for loanable funds into equilibrium in the capital market provided a tidy analysis, highly satisfying to an orderly mind. When tested by the facts, however, it left some troublesome questions unexplained. Underlying the demand of the entrepreneurs is the expectation of profits, and at any given time a large amount of available funds may fail to find investment, no matter how low the rate of interest falls, because at the moment the hope of future profits is extinguished. If the prompt response to this failure of the entrepreneurs to borrow on a falling interest rate were a reduction in the amount of funds available, it could be maintained that the interest rate brought the supply and demand to equilibrium; but, as we know, this may not happen. Many motives besides the rate of interest influence saving, and savers may continue to save in complete disregard of the low rate. It is important here, as indeed it is in all economic analysis, for the student to keep clearly before him the meaning of the words "demand" and "supply" as they have been used throughout this volume. Here we have restated certain points already made in Chapter Twenty-seven. We are now

ready to take a further step. Suppose the possibilities suggested above come about: we have in the community an increase in the rate of saving and a fall in the interest rate, but the low rate of interest fails to bring about new investment because entrepreneurs see little prospect of future profits. They are unwilling to buy new equipment or raw materials or to erect new plants, no matter how cheaply they can obtain funds for such purposes. Possibly the very increase in the rate of saving discourages them, because they believe that the public in order to save has reduced, and will continue to reduce, its buying of consumer goods. Thus between the amount of saving and the amount of investment great discrepancies may arise.

What relation have these possible discrepancies to the business cycle? Before we can answer that question it is necessary to follow a part of the argument of the late Lord Keynes,[7] one of the most influential economists of this century. Keynes was not concerned primarily with a theory of the business cycle but with recasting the general explanation of economic processes. Classical economists regarded equilibrium with full employment of resources as the normal condition of economic society, and fluctuations away from full employment as transitional and temporary. The chief problem of economics as they saw it was to explain the normal equilibrium toward which economic forces were always tending. Though they allowed for temporary unemployment, there was in their equilibrium no place for permanent idleness of men or capital resources. The difference between the conclusions of their theoretical work and the facts which we observe demands explanation, and Keynes attempted an economic analysis which would recognize the persistent unemployment of productive facilities. His theory of the business cycle may be said to be incidental to his larger purpose. We therefore must follow his larger explanation before we can apply it to the problem of cyclical fluctuation.

Let us restate two familiar tenets of orthodox doctrine: an equilibrium condition is a condition in which entrepreneurs have no incentive to expand or contract the scale of their industry; no equilibrium can be stable so long as there are unemployed resources. With printers' wages at $2 an hour, if there are unemployed printers willing to work for that wage, but unable to obtain work, there exists an incentive which will induce some employers to expand their industry; thus the conditions of stable equilibrium do not exist. Keynes's contention is that there can be equilibrium without full employment of resources—indeed, that equilibrium can come at any level of employment. His argument is fairly simple. The aggregate income of the community consists of the part spent for consumers' goods and the part spent for new investment. The sum of these two he called effective demand. If the effective demand of

[7] *General Theory of Employment, Interest and Money*, 1936.

the community equals the supply price (cost) of the goods produced, equilibrium exists. Suppose with such an equilibrium the community increases its savings, that is, decreases its expenditure for consumers' goods. If the effective demand is to continue equal to the supply price of the output, expenditures for new investment must at once increase as much as consumption expenditures have decreased. If they do not do so, the existing output cannot be purchased at prices which equal the costs; past expectations of entrepreneurs will not be met, and they will contract production. A reduction of employment and of the income of the community follows. Eventually, in the contraction of output, a point will be reached in which the proceeds of the community again will cover the cost of the lower output and equilibrium will be re-established. This new equilibrium will be at a lower income level, with unemployment of men and resources.

If we start from such an equilibrium as this, one without full employment, an increase in the purchase of consumers' goods (reduction in saving) unaccompanied by a decline in new investment would increase effective demand. Profit expectations would cause expansion, which might continue until all productive resources were at work. To maintain stable employment, it follows that any change in the rate of consumption must be accompanied by an equal and opposite change in the rate of investment. We have, in the two situations described, assumed changes in the current rate of consumption, in the words of Keynes, the "propensity to consume." If we consider the propensity to consume stable, then the volume of employment and the amount of output depend on the rate of investment. It thus becomes important to discover what determines that rate. The answer given by Keynes is that the rate of investment depends on the relation of the marginal efficiency of capital to the rate of interest. The student need not be dismayed by the formidable character of this statement. The idea is less formidable than the vocabulary. Marginal efficiency of capital is the relation between the hoped-for yield of a capital asset and its supply price or replacement cost. If a new machine costs $20,000 but is expected in its term of life to yield 6 per cent on its cost, that 6 per cent represents the marginal efficiency of capital. If the rate of interest is 4 per cent and the marginal efficiency of capital 6 per cent, the entrepreneur is well advised to buy the machine. Clearly the entrepreneur cannot know what future earnings will be. His calculations are based on expectations, not on realization. A rising price level will tend to raise his expectations; fears of falling prices or of higher costs will lower them. Irrational optimism or pessimism may be as effective in increasing or reducing expectations as actual conditions. If marginal efficiency of capital and the market rate of interest are the same, the entrepreneur has no incentive to increase investment; if the market rate is

less than the marginal efficiency of capital, new investment offers opportunities of profit; if the market rate is higher, contraction of investment will follow.

If new investment takes place in a period when there is full employment of resources, it must divert facilities already employed. It will, then, not change the aggregate of goods produced but only the character of some of the goods. It will not increase aggregate employment but will transfer some workers from the making of consumption goods to the making of production goods. We know, however, that full employment of resources is unusual. Most new investment will find idle facilities available. By putting them to work it raises the level of employment and increases the aggregate income of the community and the spending for consumption. Investment and consumer spending are not rivals, in competition with each other, but are complementary. As one increases, the other increases. From all this we arrive at the conclusion that the active force in the expansion and contraction of employment and of income is the rate of investment. Let us retrace the steps in the argument. When effective demand equals the supply price of goods produced, we have equilibrium, but it may not be at full employment. To achieve increased employment, effective demand must increase. An increase in the purchase of consumers' goods would provide the necessary stimulant to production and employment, but, according to Keynes, it cannot be looked for there because the propensity to consume is not flexible. Therefore, the increase of effective demand must come through its second element, investment. The rate of investment depends on the relation between the marginal efficiency of capital and the rate of interest. So long as the marginal efficiency of capital is higher than the interest rate, expanding investment can be counted on to increase employment and volume of production. But the marginal efficiency of capital, which is determined by the relation between expectation of profits and the cost of new capital assets, tends to decline for two reasons: the increasing cost of capital assets and the decline in expectation of profits.

It is a simple matter to apply this analysis to the recurring phases of the business cycle. Anything which encourages future hopes on the part of entrepreneurs tends to set up new investments. Aggregate employment and income increase, and we are launched on a period of expansion. Hopes of profit exceed the market rate of interest, and investment continues to increase, perhaps for a considerable period. Various forces, however, are at work to check the process. First, because of a fixed propensity to consume, a smaller proportion of the income is being spent. This tends to reduce future expectations of profits. If the reduction in marginal efficiency of capital were accompanied by a similar reduction in the interest rate, the rate of investment might at least remain unchanged, but actually the interest rate tends to rise because of an

increase in liquidity preference. That is, the desire to hold cash becomes stronger; those who have it part with it reluctantly and those who want it are willing to give, and must give, more for it. There remains small reason to hope for future profits, investment falls off, and recession sets in. Employment and income are reduced. Even though the interest rate now falls, the entrepreneur sees no hope of future returns and cannot be induced to invest. This, briefly and with the omission of some of its more controversial and more difficult arguments, is the theory of Keynes. The cycle becomes a series of variations in the marginal efficiency of capital and in the rate of investment. Could the latter be maintained, we need never suffer recession and contraction. To do so means keeping the interest rate below the expectations of investors. There may, however, come a time when, no matter how low the interest rate, entrepreneurs cannot be induced to invest. Under such conditions the investment must come from outside; in other words, government spending is necessary. The government must undertake new investments not only to bring immediate increase of employment but to start private investment.

To understand how government investment works we need to follow Keynes's exposition a step further. We have seen that if investments increase, income increases and consumer spending increases. If consumers could be counted on to spend and respend the amounts originally invested, the stimulus to further investment would be very great, and it would not be long before all resources would be employed. If in the month of January investment for the building of roads exceeds the savings of the community by $100,000, and this increase in income is expended in February and again in March, in these three months the original new investment in excess of savings has increased the total income by $300,000, and has made possible that amount of business expansion. But, says Keynes, this is not what happens. The spending of individuals does not increase as rapidly as their incomes increase. The propensity to consume changes slowly. Thrift is so inbred in most of us by education or habit or convention that with larger incomes we save larger proportions of those incomes, even when prodigality would be public virtue. There are also other leaks, which we need not amplify here, that reduce the size of the successive expenditures which follow from the original investment. Only a portion of the $100,000 put into road-building in January would be spent in February, perhaps $66,000; in March, only a portion of the February sum, perhaps $44,000. The total addition for the three months would thus be not $300,000 but $210,000. This addition to the original investment is what Keynes means by the "multiplier effect." The calculations by which the size of the multiplier is determined we need not examine. The point is that the larger the multiplier the more effective will be government public works as a means of recovery.

Keynes is by no means the only economist who has found the explanation of the cycle in changes in the rate of investment, but his doctrine will serve to illustrate the reasoning of this group. It unites elements of the monetary theories and of the underconsumption theories and brings the theory of the cycle into harmony with a general analysis of economic processes.

Control of the Cycle

If our economic system is to achieve maximum satisfaction for its members, it is obvious that the elimination or the control of this recurring economic instability must be accomplished. The relationship among consumer buying, credit expansion, business expectations, interest rates, and all the other elements which make up the confused and confusing picture are of importance because somewhere in those relationships we must find the place to exercise control. Our central concern is the instability of employment and of real income which results from unstable production; our ultimate question is, How can productive operations be so stabilized as to give more continuous employment and a more regular national income? Economic analysis must lead eventually to the answer to this question. How far has it moved toward that answer?

There is general agreement on the influences which deepen depression, once it is started, and which accelerate recovery and expansion. No matter what starts the upward or downward movements, every influence sets other influences in motion. It is the turning points which call for study. Why does expansion not continue? What controls could prevent the collapse of expansion or stimulate recovery once contraction has set in? If we accept some form of monetary causation, then we shall find our remedy in control of bank credit; if we accept oversaving as the cause of our troubles, we may look to a reduction in the inequalities of income for the cure. Or, if we join another branch of this school, one which regards saving as inevitable, we may look for a means of offsetting the money set aside in savings by new money injected into the system through bank or government action. If we accept Keynes's analysis, consumption must be maintained, the rate of interest controlled, and, as private investment declines, its place must be taken by public investment. With minor exceptions these remedies do not compete with each other. They will all serve to check the movement of accelerating forces and can be invoked to moderate the degree of fluctuation even though they do not eliminate it.

Laissez Faire and the Business Cycle

Before turning to a review of what actually has been done in this country we ought to recognize the existence of an opinion which till now we have

ignored—that of those who oppose all efforts at control, in the belief that the only sound recovery is automatic recovery. This is to say, there are economists (as well as politicians) who apply to the cycle a laissez-faire philosophy, holding that we still have a competitive system which will bring about its own remedies if let alone. The explanation of the severity of cyclical fluctuations and the slow arrival of recovery, they find in the rigidities introduced into our economic order by various interferences with competition. They argue that in a period of contraction ultimately all weak firms will have failed, all unsound banks will have been liquidated. Business will have "gone through the wringer." Wages and interest rates will have fallen to new low levels. At long last the exhaustion of stocks of goods and the new low costs of production will hold out prospect of profit, and here and there entrepreneurs will be stimulated to new investment. During this process any interference may delay automatic action by introducing inflexible elements which refuse to respond to the general downward movement. Any rigid price may hinder the decline in costs which is trusted to bring new opportunities for profit. Advocates of this view commonly point to wages as the most frequent obstacle to recovery.

The obvious answer to this position is that whatever its validity in a completely competitive society, we have no such society today. We must consider the business cycle in the world we live in, not in a competitive world of our imagination. Some opponents of the let-alone doctrine go further. In general they maintain that actually there are no influences even in a competitive system which will bring the upward turn. Unemployment breeds unemployment; low wages force the spread of lower wages; reduced buying reduces buying power still more; falling prices will continue to fall. Some outside influence must initiate recovery. In the twenties the automobile industry provided the necessary force. If such an outside stimulus appears, well and good; if not, government action must supply it. Even with the industrial stimulant of a new industry government action may lessen the evils of depression and hasten the process of recovery. A third group opposed to the laissez-faire position does not argue as to whether automatic recovery will come about in time. Its members are willing to grant that it may do so. But they contend that no society can allow its people to sink to such poverty as would come in the contraction which must precede automatic recovery. The reduction in the scale of living, the suffering, and the waste of productive capacity (both human and material) involved in the long-continued and widespread unemployment would usher in social revolution long before automatic recovery brought relief. Therefore, quite apart from questions of theory or of humanity, our society must quicken the process of recovery if orderly government is to be maintained and the existing economic system continued.

Recovery Measures after 1933

The measures taken by the Federal government after 1933 embody the influence of many men with many minds. More than this, they represent three distinct purposes not always in harmony: relief, reform, and recovery. Those which were concerned with immediate relief can be briefly dismissed. The cheapest and quickest way to feed the hungry is by the dole, that is, direct money payment by the state. It is sometimes necessary while better methods are being devised, but it does nothing to restore a morale destroyed by involuntary idleness; it weakens the sense of self-respect and independence. As a means of redistributing income or creating greater purchasing power it is hopelessly inadequate. In 1933 the Federal Emergency Relief Act provided for Federal relief to be administered by state and local bodies. This was followed by many similar acts, always regarded as emergency measures, to prevent suffering until wage-earners could once more be employed. We can dismiss them as having little significance in a recovery program. Legislation primarily intended to remedy abuses in our system also may be omitted here. Much of it has found mention in earlier chapters. In the main, efforts to stimulate recovery can be classified as (1) changes in our money and credit arrangements; (2) changes intended to restore the income of the farmers; (3) attempts to increase employment and private investment; (4) attempts to increase the future security of the worker. Those belonging to our first group have already been discussed in Part Four. The student would do well at this point to turn back to that discussion and re-examine our present methods of credit control with a view to their adequacy in cyclical disturbances. The measures included under (2) we shall discuss in Chapter Thirty-nine. The plans for social security are the subject matter of Chapter Thirty-two. Here we are interested chiefly in efforts to increase employment and to supplement and revive private investment by means of public expenditures.

Early in 1933 two agencies were created for the re-employment of the twelve or thirteen million idle workers in the country: the Civilian Conservation Corps and the Civil Works Administration. The first of these was rapidly organized for efficient and much-needed service in our national forests. It proved its usefulness in a variety of ways and continued until we entered the war. The Civil Works Administration achieved less satisfactory results. The magnitude of the task and the need for rapid action made careful supervision of projects and of personnel impossible, and too much of the control passed from the Federal government into the hands of local politicians—sometimes incompetent, sometimes corrupt. In April, 1934, it came to an end with the establishment of a Federal works program and the Works Prog-

ress Administration for handling smaller projects. The former was slow in formulating a program and setting it in motion, partly because all local projects which were submitted had to be passed upon before money was allocated to the use of local units. On the other hand, the WPA (the Works Progress Administration) set to work promptly, and these initials became familiar objects either of obloquy or gratitude throughout much of the United States. Great ingenuity was exercised in devising projects which should add to the richness and variety of our lives, which should provide employment for all kinds of workers, and which should not compete with private industry or discourage private investment. Many of the results were of unusual interest. An excellent example is the state guides which began appearing in 1937. Artists and actors, writers and research workers, found employment on WPA rolls to their own advantage and to the benefit of the community. In addition, roads were built; schoolhouses, libraries, parks, airports, and sewage plants erected; flood-erosion-control projects and rural electrification advanced. Part of this work was that of the WPA, part that of the Public Works Administration. At the same time that the PWA carried forward Federal projects it aided state and local undertakings. In 1937 some 16,000 Federal projects and 10,500 state and local projects were completed or in progress. Between 1934 and 1939 unemployment relief and public works had brought about the spending of 19 billion dollars. The Reconstruction Finance Corporation, the Home Owners' Loan Corporation, and the Farm Credit Administration contributed some 18 billion dollars to resuscitating businesses and aiding distressed home and farm owners.

Two kinds of projects are represented here, which we may distinguish as relief projects and public works, though these terms are far from satisfactory. Suppose workers are employed to compile a body of statistical material. The work calls for no capital equipment beyond fountain pens and notebooks. The only stimulus to recovery must come from the wages which they receive and spend for consumption goods. A few consumer industries will have an increased business, but the secondary effect will be slight. The difference between a pure relief payment and this payment, disregarding at this point the different effect on the individuals receiving the payment, is that with the former there is no addition to the national income, while the statistical work we may assume has added something to the ultimate total of goods. Suppose workers had been employed on some extensive construction project or in building a Boulder Dam or a Grand Coulee. The money expended directly for wages is but a small part of the total expenditure. Industries which supply materials for construction are quickened. The additional wages and profits which they expend are again expended. The multiplier is at work here, and

the secondary employment which results may be two or three times the original increase, though all our estimates, it must be remembered, are highly tentative. From the point of view of business revival, public works seem to offer the sharper stimulant.

If it is true that projects involving the use of large amounts of capital along with labor promise quicker recovery, it may be asked why large public works are not started at the very beginning of the depression period. Why do we resort to other forms of employment? To this there are several replies. In 1933 recovery measures and measures for immediate relief were both needed. Unless large plans for public works have been in hand long before a recession begins it will take months to set them going, and as yet no government has been so farsighted as to blueprint a building program for depression in the midst of prosperity. The resort must be to temporary and immediate work until the larger projects can be established. There are other difficulties. Unemployed workers must be given the kind of work they can do. An accountant cannot be turned overnight into a worker on bridge construction; an idle musician is not likely to make a good worker in cement. Further, there is always the difficulty, in the secondary employment which is supposed to be stimulated, that workers already employed may simply be drawn from one industry to another and that profits may increase and possibly add to the unemployed savings of the period. There is still another obstacle to launching a public-works program large enough not only to re-employ workers rapidly but also to spur private industry, that is, fear of the cost of such a program. All these difficulties work against the rapid expansion of large-scale public works.

The problem of how these government expenditures are to be paid for has been an ever-present one in the minds of many perturbed citizens. The whole question of government finance receives extended treatment in Chapter Forty, but certain aspects of it, closely related to problems of employment and the business cycle, must be considered briefly here. There are two possible ways of financing government projects: taxation and borrowing. Taxation will almost certainly reduce the purchasing power of the taxpayers. Insofar as it does this, purchasing power has merely been transferred from one group in the community to the government, which then pays it out to other groups. Different things may be purchased, but aggregate demand has not been increased, and no influence toward recovery has been exerted. A second possibility is that taxes will to some extent draw down savings which might have been used for new investment. The government is then expanding its expenditures to the detriment of private investment. No net expansion has been accomplished. The third possibility is that taxation may draw forth idle funds,

which because of the lack of profit incentive would not have been used in private investment. Here we have a possibility of new investment resulting from taxation, but the forms of taxation which would surely accomplish this are yet to be devised.

The other method of financing public works is by the unbalanced budget, that is, by borrowing. Again we do not wish to anticipate the discussion of the later chapter and shall state the essential points but briefly. If the student has followed Keynes's argument, he must already have grasped the fact that with idle resources in the community and private entrepreneurs failing to invest, government investment must be invoked to increase employment and spending. Government investment supported by taxes will not serve because, as the last paragraph suggests, increased taxation will almost certainly cut down consumer spending at a time when extravagance, not thrift, is the social virtue to be encouraged. Deficit financing, that is, the financing of government projects by borrowing, then becomes the one way to increase the national income and restore private investment. If this still seems to the student contrary to his accepted ideas of the effect of an unbalanced budget, we suggest that he withhold judgment until he has digested the subject matter of Chapter Forty.

By 1937 recovery was well on the way. Wholesale prices had risen from 65 to 86, and national income had reached 69 billion dollars. The index of industrial production, based on 1923–1925, reached 118 in March and for three months remained at that level. The steel industry reached 72 per cent of capacity and its employment index moved from 65 to 119. Capital issues for the first time since 1931 passed $100,000,000, and unemployment fell to the lowest figure since 1931—between six and seven million. Late in the year, however, a sharp recession set in. Prices, production, and employment fell rapidly, unemployment reaching ten million in 1938. This came, in part at least, as the result of an attempt to balance the budget. Renewed government spending in 1938 reversed the trend and started the economy on an upward swing once more.

To follow the expansion of production, employment, and profits which the war brought would throw little additional light on the business cycle. All the phenomena of the period of expansion are to be found in the years between 1939 and 1945. The peak of production was attained in 1943, when the index number for physical production reached 239 (1935–1939 = 100). For durable manufactured goods the index moved from 109 in 1939 to 360; that for nondurable goods, to 176. Unemployment fell to 730,000 in May, 1945, a figure as low as it is ever likely to reach. The index for employment in 1943 reached 177.7 (1939 = 100); factory pay rolls, 334.4. By 1945 the latter figure

had dropped to 277.3. The index for production for July, 1945, was 211; for September it was 171; a year later, September, 1946, it was 182. For durable goods the index in July, 1945, was 292; in September, 195; in September, 1946, 212. Nondurable goods showed less fluctuation: in July and September, 1945, the figures were 167 and 156; in September, 1946, 161. The employment index for manufacturing was 139 in June, 1946, and 157 a year earlier; the pay-roll index was 257 in June, 1946, and 308 a year earlier. But war is not the remedy for fluctuating production and cyclical unemployment. It may, indeed, bring in its wake a greater depression than that which followed 1929, unless we are willing to use with courage, foresight, and understanding all that we then learned.

PART SIX

THE STATE AND ECONOMIC ENTERPRISE

CHAPTER THIRTY-FIVE

The Functions of Government

OUR ECONOMIC system has been characterized in this volume as a system of free enterprise controlled by prices—a modified laissez-faire economy. Yet throughout our study there have been innumerable indications that this economy operates within a governmental framework that at many points affects it and is affected by it. Government in some guise appears and reappears, and it must long since have become clear to the thoughtful student that to treat our economic order as something divorced from government and functioning as a system independent of the machinery of the state is to maintain an impossible fiction. Certain aspects of the relationship of our government to the economic activities of its citizens have already been emphasized; for example, we have examined the relation of the law, the courts, and government agencies to the organization of labor. We have considered the measures taken by legislatures to see that the lowest-paid workers receive a minimum income, that unemployment does not leave men entirely without resources, and that old age does not find the great body of the workers totally unprovided for. Such legislation expresses a lack of belief that the unguided operation of our present economic order will bring about these results; it also indicates a belief that they are so important to the whole of society that they must become the common responsibility and be achieved by common action if they are not promised by the unaided working of the economic system. Government measures of this character we may classify as primarily concerned with distribution of income, provided we remember that they also exert powerful effects on production. In the chapters which follow this one we turn to a more systematic examination of the role of the government in specific areas of production, remembering as we read them that its action here also has great importance to distribution. That is to say, production and distribution are so inextricably conjoined that it is impossible to touch one without touching the other. In the present chapter we pause for some general remarks on the functions of government[1] in economic life and the considerations which enter

[1]The student at this point is warned against the lamentable practice, into which we all too often fall, of regarding "the government" as an agency outside our lives and in some curious way set in opposition to the people of the state, that is, to all

into the determination of its functions, though any extended examination of the place and purpose of government lies outside the province of this work.

Obviously laissez faire and free enterprise cannot mean that government plays no part in economic control. Or if they do imply that, then the terms have no place in economic reality, for the very existence of enterprise as we understand it implies contractual and property rights which are the creation of the state and must be protected and safeguarded by the state. Even in Adam Smith's concept of a society in which the pursuit of self-interest worked for the good of all, government played a necessary and significant part. It continued to do so in spite of nineteenth-century individualism, as a few illustrations from our own history will demonstrate. All governing bodies must have revenue and must decide how that revenue is to be raised. The choice of method cannot be freed from economic consequences. For many years our traditional reliance was on a tariff on imports, which helped to make the United States a manufacturing country and soon became a means of fostering specific industries, thus in part determining the character of our production and of our national income. Control by price is by no means unrestricted in any state which makes use of protective tariffs. Consumers are not free to find and buy in the cheapest market, and some producers are almost certainly receiving advantages denied to others. In fact, any conceivable tax system will somewhere affect the working of business enterprise, and any decision as to what that system is to be is a decision closely related to the functioning of the economic order. Let us take another example. From the beginning of our history as a nation the control of currency has been lodged in the hands of government. It is scarcely necessary to demonstrate that for the orderly conduct of economic affairs it must rest there. Yet banking and currency questions, many of which are now entirely controlled by the state, are of major importance to enterprise. To take one more instance, our government has been the owner of a vast tract of land which has had great significance in the development of our economic life. The methods by which the state disposed of that land and accomplished its settlement and cultivation have affected many aspects of our economic as well as our territorial expansion. Practically none of our westward migration was free from the influence of the public domain.

The sole point which we wish to establish by all this is that our capitalism

of us. In a democracy such a view is not only mistaken but pernicious. The government is made up of those elected by the citizens or appointed by elected officers to carry out the will of the majority, insofar as that will can be ascertained. Though it is necessary to write of the actions of "the government," we must hold fast to the democratic interpretation of that term.

is not and never has been the utopia of the believers in a policy of complete laissez-faire. We do not live and work in an economic order which functions in a vacuum but in one in which government plays and must play a large part. This calls for emphasis not because it is in the least obscure but because it is so frequently forgotten. Our illustrations have been drawn from the working of our Federal government, but we could turn to our state and local governments for many more. Every governmental unit is constantly making decisions and taking action of the utmost importance to the operation of enterprise.

The years since the Civil War have witnessed a great extension of governmental activity not only in our own country but in all the countries of the world. As the growth of free enterprise created powerful and conflicting interests the need for an over-all authority to which appeal could be made grew more, not less, acute. The increase of population and of concentration of population, the growth of wealth and of concentration of wealth, the increasing dominance of the corporate form of business organization, the increase of economic insecurity which is inevitable with the increase of freedom, have laid on governments everywhere heavy responsibilities. Abuses can be remedied and the rules of competition enforced only by the action of a sovereign power, in theory, at least, outside any of the conflicting groups or, perhaps better, representing all the conflicting groups. It becomes the duty of governments to see that particular interests are not fostered at the expense of the whole. They must act as supervisors, regulators, and umpires. They must lay down the rules of competitive activity, adjust conflicting claims, remedy abuses, protect the weak against the strong, in order that the well-being of the whole may be preserved. An economic system without such government action is unthinkable. But government activity may go further. A study of existing abuses and a search for remedies may lead to plans for constructive improvements within the capitalistic framework. It may become evident that government agencies can supply certain services more satisfactorily and at smaller cost than can private enterprise. The practical questions become: How much government control is necessary to correct the abuses and ensure the working of private enterprise; and What services do we wish performed by private enterprise, what by the government? We should probably all agree that we preferred to have public highways provided by public authority. We do not agree to having our railroads maintained by the government, though we accept its control over railroad rates.

These are political as well as economic questions of great moment, and questions to which no categorical answers are possible. If we accept the goals of our economic order suggested in Chapter Two, we have at least a guiding

principle: we want that combination of governmental and private activity which will provide the maximum of satisfaction, defining satisfaction as broadly as possible. This maximum, as was earlier suggested, is not necessarily to be achieved by the largest material production. The largest possible national income may not render the maximum satisfaction, though a large national income will certainly contribute to it. A population living on the verge of starvation has not gone far toward achieving our economic goal; on the other hand, we should doubtless all agree that a population of slaves working under the lash is not our ideal, even though their production was abundant and they were allowed a generous share of it. Again, as before when we opened this subject, we are content to accept a common-sense interpretation of maximum satisfaction without dwelling on the refinements of the concept. Maximum satisfaction must allow for goods sufficient to relieve poverty, it must allow for leisure for self-development, it must allow for freedom as each generation interprets that term. However vague is our statement of economic goals, these goals probably represent to each of us ideals much more definite than the words themselves. Even if they were capable of sharp definition they would still give us only a principle, not a set of rules for practice. The rules have to be worked out largely by trial and error and have to be re-examined and redetermined under each new set of circumstances.

In fact, the question itself will take a new form in each succeeding generation. In the decade of the thirties we heard much of "planning" and the question became How much of planned economy is possible or desirable in a capitalistic state? "Planned capitalism" was on many lips, as contrasted, on the one hand, with an "unplanned" or price-controlled capitalism and, on the other, with some form of collective society. If to the advocates of planned capitalism as something new it was objected that the capitalistic state had always planned, they replied, and with some cogency, that governmental decisions such as had been made in the past could not be called planning, because they were made in accord with no predetermined pattern but responded to pressure first from one group, then from another. This is undeniable. Our question then takes this form: Can government decisions and government activity within capitalism be made to conform to any general plan rather than continue as the haphazard and inconsistent response to private pressure groups, whether those groups are farmers or the C.I.O., the National Association of Manufacturers or the Tax Economy League? Is it possible, and if it is possible is it desirable, for the capitalistic state to further the maximizing of satisfactions by planned activity and still maintain the fabric of free enterprise?

In the war economy, doctrinaire argument gave way before practical necessities. Production for military purposes could not be left to the decisions of a

myriad of enterprisers, guided by price and profit considerations. With some exceptions, we accepted as necessary the allocation of scarce producers' goods under a system of priorities, the rationing of consumers' goods, the control of manpower in industry, and the draft of eleven million men for the armed services. The area of control was enormously increased for the single purpose of winning the war. The result was a fabulous output for military needs, with inconvenience but with little serious sacrifice among consumers at home. Despite the abundant production achieved, it is safe to say that as a people we have no desire to pattern our peacetime controls and division of functions after those accepted during the war. The debate of the thirties will continue, though it may be carried on in different terms. How much uncontrolled free enterprise, how much planning?

It might be a better debate if the debaters were more careful to define their terms. Do they mean by "free enterprise" a system under which the output of goods is the result of the independent decisions of a multitude of businessmen? Do they assume competitive conditions as a part of our free-enterprise system? If so, are we justified in calling an economy in which blocks of industry are organized as monopolies or are attached to world-wide cartels an economy of free enterprise? Or does it become one only if government regulation can restore competition? How much planning do the planners believe compatible with capitalism? The definition of planning as "the conscious and deliberate choice of economic priorities by some public authority"[2] offers no answer. Is the public authority to determine how many men shall mine coal, how many farm, and how many produce automobiles, or merely to set limits within which prices and wages will operate? It should be observed here that planning by public authority is not identical with socialism. The latter substitutes governmental for private ownership, whereas the planning authority might carry out all its plans through private firms. It would be a system of private enterprise shorn of control by price.

From this excursion let us return to the present activities of our own state, with its mixed economy, in which private enterprise is the basic activity and government intervention, regulation, and control or actual operation are found at points where private enterprise apparently has failed to work smoothly. The difficulties in such a combination are innumerable. Decisions must be made piecemeal, with no large view of the elements in the problem. The comparatively simple planning for a single aim, warfare, amply illustrates this. A decision at one point has repercussions undreamed-of when the decision was made. Also, such methods as ours seem sometimes to put a premium on com-

[2]Barbara Wootton, *Freedom under Planning* (University of North Carolina Press, 1945), p. 6.

binations of corrupt politicians and scheming and dishonest businessmen. At times they are bound to bring the government into competition with private industry, with the result that highly desirable government purposes may be obstructed or delayed by selfish private interests. All these difficulties are freely granted in the discussion of government functions in our own economy which follows.

In any study of government functions the first question of interest concerns the activities of government in the production and distribution of goods. In an economy like ours, characterized by private enterprise, it is often asserted that government action ought to be kept at a minimum. Enough has already been said to indicate that this is nonsense; there is no sacredness in private as opposed to government action. The guiding principle is this: whatever activity is required in the public interest should be performed, directly or indirectly, by government agency (1) when private enterprise cannot or will not perform it or (2) when there is reasonable expectation that it will be better performed by a government than by a private agency. There is no hard-and-fast line between those activities that ought to be carried on by government and those that are more suitable to private enterprise. The line is constantly shifting, from time to time and from place to place. The social end of both private and government enterprise, it should never be forgotten, is the same, namely, the well-being of all the public. The choice of the best means to that end in each particular instance is a matter of practical judgment, not of abstract principle. We want the government to inspect the meat we eat, to forecast the weather, to fight Japanese beetles, and build bridges and lighthouses, but not to own or run coal mines. There is no inherent reason why passengers and freight in the United States should be carried by privately-owned railroads, letters by the government, and small packages by both, while in Switzerland all four should be carried by the government. Nor is there any inherent reason why New Yorkers should use electricity produced and distributed by a private profit-making company, while the people of Seattle use electricity generated and brought into their homes by a city-owned and city-run electrical plant. The practical question is What, under the particular circumstances, is the best way of getting the necessary service performed? It is only as private business sets itself in opposition to the public interest or as the government strays from its true function of promoting that interest that the two become antagonistic.

The Police Function

Four general classes of government functions may be distinguished, though not always sharply. First, and fundamental, is what is called the police func-

tion, the maintenance of public order, with all that this implies. It is this responsibility that makes the state the state, and whatever agency carries on the activities necessary to this purpose is ipso facto the government. The work of legislatures, courts, and executive officials in the making and the execution of law, together with the action of policemen in the keeping of public order and of armies and navies in protecting the nation, is the performance of public functions of the highest import. The activities of the government officers and employees in this group eventuate in a continuous stream of services in which all members of the community share directly or indirectly. Moreover, the performance of these services is prerequisite to all the other regular activities of society; yet the work of the so-called "police state" accounts for but one group of government activities.

The Social-Service Functions

Secondly, every modern government provides for its citizens a great many positive social services. Such services in unbelievable variety are rendered today by city, state, and Federal governments in the United States. They are constantly increasing in number and extent, in response to a constantly increasing demand from citizens. The larger part of the work done by city and state governments is of this kind. They create, maintain, clean, and light our streets and roads. They commonly supply us with water and dispose of sewage; they provide most of our schools, libraries (despite Carnegie), museums, and other educational institutions. They create, equip, and maintain parks, playgrounds, and other recreational facilities. They build and run hospitals for the sick and for the treatment of all classes of unfortunate and handicapped persons. Their work in behalf of public health is extensive, indispensable, constantly growing, and little appreciated except by specialists. To rehearse the valuable services daily performed by our cities and states and distributed, in large part free of charge, to their inhabitants would require a volume—and an interesting and surprising volume it would be to most citizens.

During the present century, and notably since 1930, there has been a rapid development of similar activities on the part of the Federal government. It will suffice to mention but one group, relatively new, the work of conserving our natural resources, already briefly discussed in Chapter Four. The preservation and improvement of our forests, the prevention of floods, the improvement of navigation on our rivers, the harnessing of power now running to waste, and the classification of our land and encouragement of its wise use are a few of the services for which future generations of Americans will be forever grateful.

Some of these social-service functions resemble the police function in that they must necessarily be performed by government; otherwise they would not be performed at all. Public-health activities, which are rapidly increasing in importance, cannot be effectively carried on except by an organization which at need can exercise compulsion. No small part of the social services, however, can be and are provided in some measure by private organizations. We have thousands of private schools, colleges, and universities, private hospitals, private sanatoriums and asylums for the afflicted. Yet government also provides, and in even larger measure than private organizations, educational facilities of every grade, hospitals, and benevolent institutions of all imaginable kinds; and most people believe it advantageous to have both private and public provision for such needs. Why does government enter these fields? Because we accept the fact that private agencies unaided will not make satisfactory provision for all the needs to be met, particularly those of the poorer citizens, and because the services are so important in the public interest as to put government under obligation to see that they are provided. A considerable proportion of these activities cannot be made to "pay for themselves." Therefore, if private agencies carry them on at all they must do so by means of contributions and endowments, and not wholly or even chiefly on the basis of payments made by the recipients of the services. Schools and hospitals, for example, cannot pay their own way, except by ministering exclusively to the wealthy. Yet society cannot afford, even from a purely material point of view, to accept the productive loss involved in the neglect of the health and education of a large part of the population which cannot pay for the needed services.

In making direct provision for wants of great social importance, however, governments have not limited themselves to carrying on such non-self-supporting activities. They have directly entered various fields occupied by private profit-making business, such as the provision of urban transportation, gas and water, and electric power. Here the principle is exactly the same as in the noncommercial services, namely, that government provides them because the services themselves are considered of high public importance and it is believed that private agencies are not providing them satisfactorily. With such services an additional problem presents itself. The private agencies—power companies, for example—naturally try to prevent the government from entering their field. If it persists in doing so, complex questions of private property rights arise, and the courts face the task of determining the compensation to which private companies are entitled. It is in this area that the bitterest controversies are likely to arise. The achievements of the Tennessee Valley Authority are almost universally recognized; yet they have not mitigated the opposition to a Missouri Valley Authority.

The Directive Functions

A third class of government functions concerns the control and direction of the private economy along lines considered socially desirable. No small part of ordinary statute law, notably business and corporation law, closely related to the police function of the state, is of this character. We have also built up, beginning with the establishment of the Interstate Commerce Commission in 1887, a group of Federal agencies whose work is of first importance both for the prevention of abuses in private business and for the direction of such business along lines of social usefulness. The Interstate Commerce Commission, the Board of Governors of the Federal Reserve System, the Federal Trade Commission, the Federal Power Commission, the Federal Communication Commission, the Securities and Exchange Commission, the National Labor Relations Board, the Agricultural Adjustment Administration, to mention only some of the best known, as well as the utilities commissions found in nearly all the states, represent a relatively new type of government agency. Our old faith in the adequate direction of private business activity by the forces of free competition through the ordinary price controls has largely evaporated. Year by year we impose on government increasing responsibilities for aiding, inducing, and at need compelling private enterprise to perform those services which constitute its social reason for existence. At each step of the process most of the businessmen immediately concerned protest the action, and often urge that they cannot do business profitably under the proposed controls. Once the controls are set up, business adjusts itself to them, and very commonly those whose business is regulated come quickly to recognize the necessity and serviceableness, even to themselves, of the very controls they at first opposed. The early feeling of the railroads in respect to the Interstate Commerce Commission and of the banks toward the Federal Reserve System, as compared with their present attitude, illustrates the point.

The Function of Transferring Income

A fourth group of government activities has as its result the transfer of income. Such transfer takes place in minor degree with every act of public charity; it occurs in larger measure by pensions and insurance payments to various groups of citizens whose income it is considered socially desirable to increase. These payments and the relief expenditures now provided by government indicate a movement in this country toward the idea that a minimum individual or family income is a matter of such social importance that it cannot remain merely an incident of good luck for some families because they are

connected with a business concern that is able to operate profitably. Every minimum-wage law expresses such a belief. Our enormous expenditures for unemployment relief in the thirties were another form of its expression—one which it is to be hoped will not recur. More significant is our belated acceptance of the principle of unemployment insurance. No less meaningful is our adoption of old-age pensions in place of our traditional reliance on the virtue of individual thrift, impossible or undesirable in practice for millions of persons in our community. Even more striking in principle is the payment by some of our states of pensions or allowances to widowed mothers with dependent children.

This fourth group of activities, it should be observed, differs from the first three because it does not create additions to the national income directly, as they do. It is in essence a transfer of money income from one group of citizens to another. The stream of real income will be diverted thereby in larger proportion to the latter and presumably will come to be composed in larger proportion of the goods that they consume. Many advocates of such transfer also hold that it will increase the regularity of production of income, and in consequence the total income produced. Critics, on the other hand, urge that by lessening the accumulation of capital it lowers the total production of income.

The output of government services of the first three kinds constitutes an important part of the national income. Indeed, the government's operations in the first and third capacities above set forth provide the framework within which the production of the entire national income takes place, and thus, in no small degree, help to determine its total amount. Further, the constantly growing activities of government (group two) as a direct producer of services to meet immediately the wants of its citizens make it today far and away the largest direct producer of income in our society. Also, its proceedings in group four, as just indicated, have important consequence not only on the utilization and composition of the national income but without question on its amount as well.

In the ground already traversed many illustrations of these various functions are to be found. The chapters which next follow discuss in some detail the directive functions of the government as applied to certain industries sometimes in an endeavor to regulate monopoly, sometimes to maintain competition, sometimes to protect the consumer, sometimes to increase the income of the producer.

CHAPTER THIRTY–SIX

Government Regulation of Railroads

IN DISCUSSING the role of our government in economic affairs (Chapter Thirty-five) we distinguished between activities primarily directed toward the transfer of income and those looking to the regulation of industry. The ultimate aim of each is the greater economic well-being of the whole, but the methods of achieving it are quite different. The former have as their immediate purpose the assurance of adequate income and some measure of economic security to the less advantaged members of the state; the latter protect the rights of the weak producer against the strong, safeguard the interest of investors, or prevent the exploitation of the consumer. As belonging to the first group we have considered efforts to establish by law a minimum wage, unemployment insurance, and some provision for old age. We might place in this group the governmental measures which have assured to labor a right to bargain for its own income and security. In the second group, to which we now turn, we shall discuss the regulation of certain types of industry as illustrating the close relation of the government to business enterprises. Our first problem is to determine why these special industries or groups of industries have called for regulation. To answer this fully we need to know something of their history and something of the nature of their economic organization.

American Railroad Development up to 1887

The nineteenth century in America was a unique incident in world history. The continual rapid growth of population, the continual inflow of new peoples seeking to share unexampled material opportunities, the continual westward movement from rich resources to richer, the continual swift increase of wealth with the opening up of those resources and the development of methods for their wholesale exploitation, the continual wide diffusion of material comfort, and the continual meteoric rise of outstanding individuals to unimagined affluence—these circumstances gave to our life a character and a color unknown to any other time and place. The circumstances already belong to history; the character and some of the color remain. The century was necessarily a century of unco-ordinated private enterprise, of weak and undeveloped

government. Our economic organization came as near to a system of laissez faire as anything the world is likely ever to see. Our businessmen operated under the loose rein of a price system that had experienced a minimum of government shaping, and the existing conditions gave to many of them opportunities for enormous gain.

During this whole period of swift industrial expansion transportation in a country of great distances like ours was inevitably a major interest of all classes of people. The value of land and its products depended on access to markets. In the early decades of the republic there was a veritable rage for "internal improvements"—the building of roads and canals and the betterment of river navigation. With the coming of the "iron horse" every town, every farming district, every mining area wanted rail carriage above all. Transportation facilities became a matter of economic life or death. Getting under way in the 1830's, railroad-building quickly became the most important American activity. Hundreds of short lines were constructed, many of them in connection with existing water routes. They were separate private undertakings, built usually with the aid of local capital, both private and public, eagerly subscribed in order to get the much-desired rail connections. As the possibilities of the business were demonstrated, ardent promoters pushed ahead, often far in advance of existing needs, with their eye on a golden future, and with governments and private capitalists willingly backing their efforts. The Federal government, in aid of railroad-building, made grants of land equal to about one twelfth of our entire land area.

In the process of building the roads, and later of combining them into great through lines and systems, there was, needless to say, plenty of financial chicanery. There were also created plenty of surplus facilities, built in the hope of sharing existing traffic or in the hope of future traffic that never came into existence. The railroad field came to be the principal area in which American "captains of industry," many of them the type immortalized in the phrase "the robber barons," fought one another and subjected lesser men in their struggle for wealth and power. When the Federal government in 1887 for the first time took up the work of regulation, we had a magnificent chaotic railroad system, embracing nearly a hundred and fifty thousand miles of line, divided among hundreds of different owning and operating corporations, among which a few giants struggled for dominance.

Railroad Economics

1. Decreasing Costs and Their Effects · In an earlier chapter it was suggested that special government regulation of any industry comes from the

unsatisfactory working of the ordinary control by price. Competition fails as a regulator, and some other control is invoked. To understand why competition worked badly in respect to the railroads, we must examine the economic characteristics of the railroad industry. In building a railroad the acquisition and grading of rights of way, the bridging of streams, the laying of track, the provision of terminal and handling facilities for both freight and passenger traffic, the supplying of adequate rolling stock—these and other like requirements necessitate a heavy investment of capital before a passenger or a ton of paying freight can be carried. This capital is highly specialized and largely immovable. If the road proves unprofitable, it cannot be transferred to another industry nor to a more advantageous location. If a railroad in northern Michigan fails to find business, it cannot be conveyed to Missouri, where transportation facilities are needed. The rolling stock might be moved, but not the road itself. A road once built may operate for many years at a loss on the ground that any return is better than no return. On the other hand, even though the road in northern Michigan earned great profits, competitors might be deterred from building a second road by the size of the necessary investment and the hazards it involved. The theory of price which demonstrates that in the long run competition tends to bring prices and costs together must make allowance here for a run so long as to be of little use in the lifetime of a generation. Further, interest on this investment, together with the cost of maintenance and the minimum pay of that considerable part of a railroad's labor force that must be maintained whether much or little business is done, constitutes a large proportion of the road's expense. Railroading is thus an industry of high fixed costs.

In consequence of high fixed costs every railroad enterprise shows rapidly decreasing costs or increasing returns with the increase of traffic up to the point of full utilization of plant. Assume that a road has fixed costs of $1,250,000 a year. In the beginning it has little traffic, runs only a few trains, and utilizes its facilities to only one fourth their capacity, incurring variable costs of $250,000 a year. Its total costs are $1,500,000. For the sake of simplicity assume that its traffic consists of freight only and that it carries the equivalent of 50 million tons one mile, to use the conventional unit. Its cost is 3 cents per ton-mile, $2\frac{1}{2}$ cents for fixed and $\frac{1}{2}$ cent for variable costs. It cannot operate profitably below that figure. Increase its traffic to capacity, 200 million ton-miles. Fixed costs are still $1,250,000; variable costs rise to $1,000,000, a total of $2,250,000, or $1\frac{1}{8}$ cents per ton-mile. If it charges that rate it can operate without loss; at anything above $1\frac{1}{8}$ cents it makes something for its stockholders. Its increase in traffic has brought a more than proportionate increase in returns.

Let a competing road be built. The investment and the fixed charges are presumably now doubled. Each road must do business enough to pay its costs. The roads, by decreasing their rates, may increase their traffic somewhat, but lower rates do not pay total costs. The new road, in order to get traffic, cuts rates to 1 cent. Our road will inevitably cut also. At 1 cent it loses $250,000 a year if it holds its traffic, but if it sticks to its "profitable" rate of $1\frac{1}{8}$ cents and thereby loses all its traffic to its competitor, it loses $1,250,000, its full fixed charges. It will probably undercut its rival in order to hold its traffic, and will keep on cutting, if necessary, all the way down to $\frac{1}{2}$ cent, where it just meets its variable costs. Actual price competition may, and in American experience did, thus drive rates down to bankruptcy levels for many roads. Most roads at times were doing business at heavy loss, yet continuing to cut rates in order to avoid doing no business at heavier loss. So long as unused capacity exists, the competitive struggle to sell the service for all that can be obtained must go on. At one time the roads were carrying immigrants from New York to Chicago at a dollar a head. The result of such action may well be a ruinously low level of rates for the entire industry, driving the roads toward insolvency or toward some form of combination or agreement for the maintenance of rates.

2. Rate Discrimination · Both the cost and the rate situation, however, are far more complex than is assumed in our simple illustration. The traffic of any railroad consists not of a single commodity moved under uniform conditions between the same points but of an endless diversity of goods (to say nothing of passengers) moving between different places under the most diverse circumstances. Total receipts, indeed, must cover total costs, including both fixed and variable expenses, but any particular bit of traffic may profitably be carried at any rate that does more than cover the bare out-of-pocket expenses it occasions. The management estimates that the variable expense it will incur in running a snow train is $500. It believes that it can sell 300 tickets at $2, and that $2 is the point of maximum revenue. It runs the train and makes $100 toward its fixed charges. If the road did all its business on a corresponding basis it would soon be in the hands of a receiver, yet it is actually $100 better off for running the train. Some lines, like those hauling iron ore to the head of Lake Superior, carry nearly all their traffic in one direction; they make a nominal rate on coal for the return trip in order not to haul their cars back empty. Thousands of examples could be given.

But even yet we deal with simple problems. An ordinary freight train is made up of fifty cars; some, gondolas loaded with coal going the length of the

run; others, grain cars filled with wheat; others, stock cars filled with cattle picked up at a way station; others, box cars only half filled with high-grade merchandise put aboard in less than carload lots. It may be possible to determine the variable cost of running the train; but just what part of the cost of the coal burned in the engine and of the wages of the train crew, the freight agents, the section hands, the train-dispatcher and the accounting force shall be charged to a ton of coal, to a hundred-pound crate of straw hats, to a barrel of vinegar? Cost allocation, even under the best cost-accounting system, is largely impossible except on a formal or arbitrary basis. The total charges for the services rendered by the train must cover the variable expense of running the train, but that does not help greatly in determining rates for individual commodities. We have, then, an industry in which the original investment is large, the fixed charges are heavy, and unit costs decrease rapidly with an increasing volume of business. Excess investment is considerable, thus increasing the total of fixed charges which must be met. It is also an industry in which a great variety of services are rendered and allocation of costs is difficult or impossible.

3. Other Discriminations · As a result of all these conditions the railroad manager really knows little of his actual costs in respect to this or that particular traffic item. Faced by competition, he is likely, therefore, to make almost any rates he thinks necessary to get the traffic, and in the particular instance he may be wise in doing so. The competitive struggle for business may lead to gross discrimination as between places, persons, or commodities. Cities enjoying the service of two or more competing roads may get unduly low rates, which are made up by high charges to intermediate points having only a single line. Business and population accordingly may be concentrated at the favored points, to the detriment of almost everyone concerned. Again, those shippers providing an important volume of traffic may exact preferential rates from competing traffic managers, to the injury and possibly to the business destruction of their smaller rivals. The most notorious of such cases in American history was the South Improvement Company contract, never put into effect, whereby the railroads not only agreed to give John D. Rockefeller and his associates a rate of 50 cents a barrel on refined oil from Cleveland or Pittsburgh to New York, against $2 charged to their competitors, but to pay over to the former the extra $1.50 paid by their rivals on each barrel they shipped. No business, of course, could live in the face of such discrimination. Yet again, one commodity may be favored at the cost of other goods, whose producers find their market limited by the high rates they are forced to pay in order to make up the necessary railroad earnings.

Such discrimination seemed an inevitable consequence of the nature of the railroad industry and the overinvestment which had gone into it, and such discrimination may mean business death to individual shippers, communities, and industries. The power of life and death was thus wielded by railroad rate-makers. On the monopolistic part of their business they charged rates limited only by their own idea of what charges would yield the maximum revenue; on the competitive part they charged rates that they themselves could not control, and that they often could not keep high enough to yield any substantial contribution to fixed costs. The shipping public found itself between the Scylla of monopoly, pooling, and high rates, on the one hand, and the Charybdis of discrimination and business destruction, on the other. The only possible action seemed to be government price control.

The Beginnings of Regulation

Under these conditions, with a railroad system like ours, embodying reckless multiplication of facilities between favored points, popular enthusiasm for the railroads was bound to be sobered in actual experience. By the 1870's the farmers in the Middle Western states, usually dependent on a single road to carry their grain and stock to market in Chicago, were declaiming bitterly against the rates charged by the "grasping railroad monopolies," while merchants and manufacturers complained no less bitterly against the rebates and discriminations enjoyed by competing shippers or by rivals in specially favored cities served by several roads. The railroads were damned as monopolists, on the one hand, as irresponsible and destructively discriminating competitors for business on the other. As has often happened, the new states struck first. Several of the Midwestern states, still but one remove from the frontier, passed drastic legislation, the "granger laws," designed to keep down rates. Most of these laws provided for commissions with rate-fixing power. The railroads naturally resisted fiercely and carried the question to the courts. In the basic case of Munn *v.* Illinois (94 U.S. 113), decided in 1877, the Supreme Court laid down the broad doctrine that government might regulate any business "clothed with a public interest" and included price control under such regulation, thus opening the door to the whole subsequent body of regulatory action. In an indignant dissent Justice Field wrote: "I deny the power of any legislature under our government to fix the price which one shall receive for his property of any kind."

Though the granger laws were in general held constitutional as applied to the railroads, they were not by such action made workable and effective. Law waits on economics. By this time the process of railroad-building and com-

bination had proceeded so far that the railroads had become largely interstate enterprises in both structure and functioning. No state commission could effectively regulate a road operating in half a dozen states. Taking cognizance of the widespread complaint against both railroad monopoly and railroad discrimination, the Congress in 1887 passed the Interstate Commerce Act bringing the railroads under Federal regulation. In the light of the economics of the situation, the provisions of the law are readily understandable.

The Interstate Commerce Act and the Commission

The act laid down the general principle that all rates must be just and reasonable, prescribed equal charges for equal services, prohibited all personal discrimination, and forbade the giving of any undue or unreasonable preferences or advantage to any person, concern, locality, or kind of traffic. It prohibited charging more for the short than for the long haul over the same line and in the same direction "under substantially similar circumstances and conditions." Also, by prohibiting the pooling of traffic or revenue by competing railroads, the act attempted to preserve competition at the same time that it undertook to forbid the discriminations resulting in part from competition. It will be observed that the act was designed primarily to bring about reasonable and nondiscriminatory rates. At the date of its enactment the Congress could scarcely be expected to give up the traditional reliance on competition as a guarantee of reasonable rates, though such reliance was inconsistent with a measure providing for government control of rates. The law thus embodied two contradictory principles, and in its enforcement the effort to preserve railroad competition has during half a century bedeviled our efforts at regulating what is by nature a monopoly industry.

For the purpose of administering the act (of course under the final adjudication of the courts) one part of the law set up the Interstate Commerce Commission, the first of those great administrative bodies that have become so important a part of our present governmental and business machinery, and that have given pain to traditionally minded students of our government because they necessarily combine in a single body executive, legislative, and judicial functions. The commission was given powers over the railroads in respect to accounting and publicity, but its primary function was the administration (and to a large extent the making) of rate policy. Its powers and responsibilities were greatly enlarged by later enactments.

The history of the commission divides itself into three periods. The years from 1887 to 1906 were a time of struggle for effective regulation. The years from 1906 to 1920 may be described as a period, on the whole, of restrictive

control. During the years since 1920 the commission has concerned itself largely with the problems of an efficient transportation system. During the early years of the commission's existence the railroads fought it bitterly, trying by every means in their power to discredit it. At the same time the Supreme Court, lacking definite guidance in the vague and general language of the act itself, and naturally cautious in extending by implication the powers of a strange new agency, interpreted the law narrowly, in effect taking away from the commission any genuine control over rates. This condition was not corrected until the Congress in 1906 passed the Hepburn Amendment, which specifically granted to the commission power to prescribe rates for the future. From that day forward the railroads have accepted regulation as inevitable. From that day the Court has yielded ungrudging support to the commission, recognizing it as the expert agency to which the Congress has chosen to delegate final authority in all questions of policy and administration falling within the orbit of the law itself. We shall make no attempt to follow this history in greater detail, interesting and important though it is to the student of economics and government alike. We are obliged to confine our discussion to certain basic economic questions, primarily of rates and service, that have underlain the development of this body. The history of the commission might well be written in terms of rate control.

The Problems of Rate-Making

Of the questions of policy and administration which have come to the commission, the foremost in popular thinking has always been rates. How high ought rates as a whole to be? How high ought any special rate to be by comparison with the tens of thousands of others that make up the rate schedule of any company? If railroad rates are not to be determined by market forces but are to be administered prices, guiding principles which will help to answer these questions must be evolved. The two questions are distinct, and the distinction must be clearly grasped. The shipper must pay the rates prescribed. To fix "the general level of rates" is therefore in essence to determine what proportion of the national income shall be devoted to railroad transportation and shall constitute the income of all those concerned in it. This first question has nothing whatever to do with the propriety of a particular rate in itself or in relation to other rates, but with the question whether all the rates taken together yield the right total income to an individual road or a group of roads. The second question, inconceivably complex, deals wholly with comparative rates. Is a rate of $4 a ton on coal too high or too low by comparison with $20.20 a ton on automobiles or $17.20 on books?

The discriminations that were the chief direct occasion of the passage of the Interstate Commerce Act raise problems coming wholly under our second question, which has to do not with the level but with the system of rates, or the rate structure as it is called. To be sure, every decision about a particular rate has its effect on the total yield of all the rates, but the primary question is whether this rate is right in comparison with all the others. The task confronting the commission, as it has emerged with increasing clearness over fifty years, thus has been the double one of gradually creating out of a rate chaos the best possible rate structure for the whole United States, and of fixing, and from time to time adjusting, the rate level so that it will be "right" in view of all the broad economic considerations that enter into the question. Such decisions, it must be remembered, affect vitally not only every railroad in the country but the well-being of every individual, because they influence profoundly the entire production and distribution of income. Railroad rates are administered prices of transcendent importance. The administrators need to be economic statesmen.

The work is complicated further by the fact that the railroads are private property, and even today, after decades of consolidation, the property of a full hundred different systems, the rights of each of which must be protected. In Munn *v.* Illinois the Court ruled that a commission might fix rates. Thirteen years later, in Chicago, Milwaukee and St. Paul Railway Company *v.* Minnesota (134 U.S. 418), it ruled that no commission had power to fix rates so low as to confiscate the property of the company regulated. But what constitutes confiscation? The question is economic. Confiscation is not a physical taking, but a taking of part or all of the value of the property of the company concerned. What constitutes its value? Here are puzzling questions of economic theory as applied to the valuation and the earnings of going concerns whose prices must somehow be set by public authority in the public interest. Such questions took shape only as the work of the commission developed. The law itself provided no guidance, prescribing only that rates should be just and reasonable. As cases were litigated the courts, working in the fog that enveloped all thinking on the subject, gradually arrived at the idea that if confiscation was to be avoided, rates must provide for a fair return on "the fair value of the property being used by it for the convenience of the public." This is simply the old problem dressed up in slightly new clothes. From the beginning, valuation has been the *pons asinorum* of commissions and courts alike. The problem is stated for the public authorities in terms of equity and justice. Its realities are economic, and a practical solution must be worked out in economic terms. To these economic realities we now turn.

There was general agreement that rates should cover costs. In the usual

interpretation of the working of an economic system controlled by price, we expect prices to settle at levels which will roughly cover cost, without any fine discrimination as to what constitutes cost. In uncontrolled railroad industry rates had not adjusted themselves to cost. It was now the problem of the commission to set rates which would accomplish this. In doing so they were under obligation to determine specifically what made up cost. Obviously it included (1) operating expenses and (2) return to capital. The second element at once raised two questions: (*a*) how the amount of capital was to be estimated—in other words, what the value or rate base was to be; and (*b*) how large a return to capital ought to be considered cost, or at what point such a return became profit. We consider the second, the simpler, question first. The return to capital under private ownership includes interest on debt and dividends on capital stock. Since the railroads, constantly needing new money, must sell securities in the general capital market in competition with nonregulated industries, they must offer investors returns comparable with those to be obtained in other industries which involve similar risks. In themselves bonds offer no special problem. Their price in the market the railroad must pay, and such price the commission must consider part of the cost. The difficult problem arises over stock. Just what part of the dividends on stock and of earnings carried to surplus constitutes a necessary cost of the railroad business? Dividends must be high enough; otherwise the road cannot sell new stock at need. They must not be too high; otherwise the public will be paying rates unnecessarily large. The rule of rate-making must be a workable one that takes care of all contingencies and at the same time provides management with a stimulus to efficiency. In unregulated industry the stockholder expects a larger return if his corporation is well managed than if ill managed, and he also expects a larger return if it operates in a risky field than in a safe one. In railroad regulation, since the rates apply not to a single road but to all the roads in a rate district, the aim of rate-making must be to provide the right amount of income for all roads together. A rate which provides the badly managed road with sufficient income may give the well-managed road exorbitant profits. More than this, in unregulated industry we expect unwise or excessive investment to be penalized by losses. Is the commission to set rates which will safeguard the foolish investment along with the judicious one? The conception of "a fair return" settles none of these economic problems.

Valuation Theories and Their Importance

Nor does the formula help to answer the first question, that of fair value of the capital. How is capital to be estimated? The simple common-sense

answer is that it is the cost of the property, what the investor put into it; and the inclination of nearly all regulating commissions has been to adhere to that basis, primarily for reasons purely practical. Theoretically it leaves much to be desired. The value of a particular property, be it a twenty-year-old locomotive or the whole Pennsylvania Railroad, depends not on what it cost but on what it can earn. If a road has been built up to high earning power by generations of efficient management and by an accompanying development of industry on its lines, should its stockholders yet receive a return only on the money they put into it? Should they not share in the prosperity their road has helped to create? And if they do not, will not capital shun investment in railroad stocks? Even as applied to the industry as a whole, and not to a particular road, will not the same argument apply?

Questions like these gave rise to various theories of valuation for rate-making purposes. Plainly the roads could not be valued simply on the basis of their earning capacity as represented in the market value of their stocks and bonds, for that value in itself might well reflect past monopoly rates whose elimination was one of the objects in view in establishing the commission. If market value represented the capitalization of earnings (which were the result of existing rates), then to use market value as the base on which future rates were to be calculated would merely continue existing rates. Yet in a developing economy there were plenty of other elements of value in a railroad aside from its cost, even if that cost could be ascertained. Beset by such doubts, the Court, as one case succeeded another, developed the idea that the fair value of railroad property, on which investors were entitled to a return, was not so much its original cost as what it would cost to reproduce it. A road today is possessed of certain physical properties, perhaps spread over a dozen states. What would it cost to reproduce those properties as they stand? Whatever it would cost, that is the sum on which the road is entitled to earn a return, no matter what the original cost. On its face the theory seems to involve an element of equity to railroad-owners that the original-cost basis of valuation does not embody, and it was in the effort to protect the rights of owners that the theory was developed during the period of rising prices from 1897 to 1920. As the money value of all property was rising during this period, no exception, it was argued, could in fairness be made in respect to the property of railroads and other regulated industries. Moreover, if such exception were made and the returns of railroad-owners were thereby kept down, investors would avoid the industry, and the necessary new capital would not be forthcoming. Consequently, in its decisions on valuation questions the Court committed itself more and more deeply to reproduction cost as the proper basis, despite sharp protest from its dissenting members.

The difficulty with this theory in practice is a double one. First, in a period of falling prices, such as followed 1929, it would bankrupt the regulated companies. Secondly, and no less important, it makes effective regulation of rates practically impossible. Since the general level of prices is constantly changing, each new rate proceeding brings up afresh the problem of current valuation, involving the estimates and guesses of rival experts on the two sides. Apart from the enormous expense involved, the years of delay incident to fighting cases through the courts make of regulation a thing of little effect.

Consequently, as earlier stated, many of the better regulatory bodies have stood up for the merits of original cost as the best basis for valuation, even when the Supreme Court favored cost of reproduction. Nearly all competent students now agree on the so-called prudent-investment theory, impressively set forth by Justice Brandeis in a classic dissent in the Southwestern Bell Telephone Case (262 U.S. 276) decided in 1923. This theory holds that the investor is entitled to a return, at whatever the determined rate, on the amount actually and prudently invested in the property. Let prices then go up and down as they will. Let the selling value and the reproduction cost rise and fall as they may. He is entitled to his return on his fixed investment, no more and no less. This is the essence of the idea, though in application it is far more complex than superficially appears. It simplifies the regulation process greatly. Once fix a valuation for rate-making purposes on existing properties and thereafter all that is necessary is to record added investments as they are made and the rate base is automatically a matter of record, with no necessity and no room for estimates, guesswork, or litigation. If it is desired to vary the return with variation in general business conditions or with changes in the general level of prices, that is easily accomplished by varying the rate of "fair return." The rate base, however, has become a fact, and the chief ground for controversy in rate-making has been wholly removed.

In respect to the railroads the possible adoption of such a basis has been greatly facilitated by the work done under the Valuation Act passed in 1913, requiring the commission to make a valuation of the physical property of the railroads on the basis of original cost, reproduction cost, and reproduction cost less depreciation. This enormous task was completed over a period of twenty years at a cost of 46 million dollars, and is now kept up to date. Its completion provides the basic information on valuation required in rate cases and in possible action by the Congress. In 1938 the commission used 21.06 billion dollars as the value of railroads in the United States.

So far we have dealt entirely with the first question raised on page 686, the question of the general level of rates, and have ignored the second. The answer may be summed up thus: Rates must be high enough to cover costs. Costs

are to include operating expenses and a return on capital investment large enough to bring new capital into the industry when it is needed. The amount of capital on which this rate is to be paid is an amount which, in the light of all possible knowledge, might be considered a prudent investment.

Special Rates

Leaving many troublesome questions still unanswered, we turn briefly to the second general problem of rate-making, that of special rates. The duty of the commission is to establish rates which do not discriminate among commodities, among places, among persons. How can one determine when a rate discriminates? Cost of service cannot be the means of setting charges, since it is impossible to ascertain the cost of the different services the railroad renders. Insofar as variable costs can be determined, they should be covered by the rates; but this offers little aid. We must be content here with indicating a few of the rules by means of which thousands of rates, different but not discriminating, are determined. Similar articles pay the same rate; fragile articles pay more than sturdy ones; valuable commodities pay more than cheaper ones; articles calling for special services pay more; the longer the distance, the greater the charge; competing commodities pay the same rates unless there are marked differences in the cost of the service required.

Different considerations are weighed in arriving at rates which do not discriminate among places. The act which created the commission stated that railroads could not "under similar circumstances and conditions" exact more for a shorter than for a longer haul over the same line and in the same direction, thus leaving open the question of what constituted similar circumstances. When the act was amended in 1910, the loophole provided by the words "under similar circumstances and conditions" was closed by eliminating them. It is thus left to the commission to determine when a rate is discriminatory. Conditions of competition with other means of transportation provide the principal guide here. Simply stated, if competitive conditions are such that to obtain business a road is obliged to lower its rates for some areas below its usual charges, the commission would probably not consider the lower rates as discriminatory. Discrimination among persons, once a major abuse, is probably much less common today than are other discriminatory practices. Nevertheless, in 1937 some seventy cases concluded in United States district courts dealt with personal discriminations. Once a road has drawn up a schedule of rates, it is filed with the commission. If after thirty days there have been no complaints, it is put into effect. The popular idea that the commission reviews all rates is far from the fact. To do so would be impossible with the

existing appropriation of the agency. It probably reviews about 1 per cent of prevailing rates.

The First World War and the Transportation Act of 1920

The coming of the first World War created a new situation which the commission, under existing legislation, had insufficient power to handle. The tremendous traffic burdens thrown upon the railroads and their inability to meet the demand by any voluntary co-operation within their power, even with the aid of the commission, finally led the President to assume control of the entire rail and water transportation system of the country. From January 1, 1918, to February 28, 1920, the roads were operated as a unified system under government control, "the common and national needs being in all instances held paramount to any actual or supposed corporate advantage." The government paid to each railroad company an annual rental equal to its average earnings during the three preceding highly prosperous years, and agreed to return its property in the same condition in which that property was turned over to the government. The United States Railroad Administration, acting under the Director General, was composed chiefly of high railroad executives, who thus during this period worked for the railroad system as a whole instead of for their own roads. Contrary to popular impression, the plan worked out successfully.

The war over, there was a general demand for the return of the railroads to their owners, but it was realized that their prewar situation left much to be desired. In framing the legislation to govern them on their return to private control, the Congress greatly increased both the powers and the responsibilities of the commission. The significance of the Transportation Act of 1920 lies in its new conception of the railroads. They are looked on not as a group of private enterprises to be prevented from doing wrong but as a system of quasi-public undertakings whose function it is to provide the best possible transportation service for the United States. The commission is regarded as the public agency whose duty it is to help, and where necessary to compel, them to perform that function.

Public policy had moved far in the third of a century since 1887. The act of 1920 embodied new controls over finance, combinations, rates, and service. First, recognizing the necessity of a sound financial structure to an efficiently functioning railroad system, the Congress, in view of continuing abuses, provided that all future security issues must have the approval of the commission. This sweeping provision, foreshadowing the more far-reaching Securities Act of 1934, gave to the commission power to pass upon the form of securities and

their appropriateness to the financial structure of the companies as well as to the purposes of their issue. It also empowered that body to approve or disapprove those purposes themselves. Since 1920, therefore, no railroad has had power to issue new securities except for purposes approved by the commission as being in the public interest. The provision, it will be noted, carries with it a large measure of negative control over combination. Closely related are provisions against interlocking directorates except as approved by the commission, and against investment bankers' acting as directors except as representatives of stockholders. The purpose of these provisions is to see that directors really direct, and direct in the interest of efficient transportation and not of financial chicanery and railroad politics.

Secondly, the act directly favored railroad combination, a process whose inevitability experience as well as reason had long indicated, and whose potential public advantages had been clearly demonstrated under Federal wartime control. The historic policy of enforced competition was greatly relaxed. The commission was given power to approve pooling arrangements and traffic agreements when in the public interest. In providing for actual mergers it was empowered to approve voluntary consolidations. What was much more striking, it was required to "prepare and adopt a plan for the consolidation of the railway properties of the United States into a limited number of systems," though in so doing it was directed to preserve competition as far as possible and to maintain existing channels of trade. It was given no power to compel consolidation in accordance with its plan, and the strong railroads, not unnaturally, had no desire to take on the weak ones. The commission adopted a plan for consolidating all the roads of the country into twenty-one systems, as was required by the law; the roads did not consolidate in accordance with that plan, as this was not required by the law.

Thirdly, the act set up a new rule of rate-making, designed to guide the commission in fixing the general level of rates. This incorporated a plan for a general railroad contingent fund which, proving unsatisfactory, was sharply modified by the act of 1933, and need not be considered here.

Fourthly, the act laid on the regulatory body new powers over service. Every road was given the legal duty of providing safe and adequate service, and the commission was given the duty of seeing that it did so. It had blanket authority over the use of existing facilities; in emergency such powers were almost unlimited. Further, no road might abandon existing line or construct new line without approval, and a road might be required, even against its own will, to construct new facilities if they were found by the commission to be in the interests of public convenience and necessity and not to constitute an undue financial burden on the carrier.

The Transportation Situation in the Twenties and Thirties

The Transportation Act of 1920 was greeted on all hands as presaging a better day for the railroads and a better service for the public. There was little appreciation of the difficulties the ensuing decade was to bring forth. These arose most of all from the swift rise of motor transport and the comparative slowness of the railroads in adapting themselves to it. An industry from its beginning essentially monopolistic was suddenly subjected to fierce competition whose importance it did not appreciate. An old industry strictly regulated in the public interest found itself suddenly faced with the competition of a new industry subject to no control whatever beyond obedience to the traffic lights—an industry, moreover, into which literally tens of millions of citizens could directly enter at trifling cost, a transportation industry whose right of way and whose roadbed, together with its maintenance, were provided out of the public purse. During the decade of the twenties traffic by automobile, bus, and truck enjoyed a mushroom growth; oil transport by pipe line developed enormously; and air transport sprang into being. The railroads, despite 5.6 billion dollars added investment, stood still. Their revenue-freight traffic was 414 billion ton-miles in 1920 and 450 billions in 1929; passenger traffic was 47 billion passenger miles in 1920 and only 31 billions in 1929, an actual fall of a full third. Gross operating revenues were 6178 million dollars in 1920 and 6280 millions in 1929. The roads employed 2023 thousand men (the all-time peak) in 1920 and but 1661 thousand in 1929. It was not that the railroads made no improvements in the twenties. On the contrary, they improved their roadbed, their rolling stock, their fuel consumption, their service. Freight traveled with a speed and regularity previously unknown. But against the superior mobility and adaptability of motor transport—its door-to-door pickup and delivery, its overnight service even over considerable distances—and above all against the joys of the individually owned passenger car, the railroads stood well-nigh helpless. Long accustomed to a practical monopoly in their own field, and now faced with ruthless competition, they were slow in changing their ideas to meet the new danger.

The increase in competition was not their only difficulty. They still carried, in spite of the increase of other means of transport, the largest part of the bulky raw materials and semifinished goods, but improving technology was reducing the amounts of these. Less coal was being used for energy; less pig iron and cement were necessary for the same industrial operations. Light steel was being substituted for heavy steel. Each of these changes, slight in itself, further diminished the demand for rail transport. Moreover, in the twenties many of the roads were still carrying the burdens of past financial sins, and some

of their masters were committing new ones. Though the plans for consolidation proposed by the commission were futile, the railroads themselves accomplished a measure of combination through holding companies, which until 1933 were outside the control of the commission. Extravagant expenditures, made possible by bank loans and the sale of holding-company securities, accompanied the creation of such unsound systems as that of the Van Sweringens. Finally, the comparative rigidity of effective public regulation without doubt increased the difficulty of the changes that the roads must necessarily make. On the other hand, the powers of the commission, which in 1920 seemed more than adequate, proved completely inadequate in the new situation.

On top of the transportation revolution came the depression. Traffic dropped like a stone. From 1929 to 1933, ton-miles of freight fell from 450 billions to 250 billions, passenger-miles from 31 billions to 16 billions, employees from 1661 thousand to 733 thousand, railway operating revenues from 6280 million dollars to 3095 millions, net income from 977 millions to 27 millions. In four years the railroad industry was cut in half. Profits were wiped out. The weak roads were in receivership; the strong were kept out of it only by government loans to bolster a tottering credit. To the railroads the only remedy seemed to be higher rates, and an appeal for blanket increases was made to the Interstate Commerce Commission in 1931. The suggestion of an increase in charges at a time when one of the major difficulties was the existence of competing means of transportation, and when in general prices were declining and business contracting, suggests that the roads had given little thoughtful consideration to the nature of the demand for their services. After the hearing of more than six hundred witnesses the commission refused to grant the requested increase, but offered as an alternative remedy temporary increases on certain commodities which, in its judgment, could carry higher freight rates. The further suggestion was made that the additional earnings of the roads financially sound be pooled and used to aid roads not able to pay their interest charges. It is hardly necessary to say that so revolutionary a proposal was not acceptable to the petitioning roads. At the end of 1933 a sixth of the railroad mileage of the country was in bankruptcy. Confronted by such a situation, the Congress in 1933 passed the Emergency Railroad Transportation Act, designed to aid the railroads by inducing or compelling them to avoid wastes and preventable expenses.

The second part of the act amended earlier legislation, especially in relation to consolidation of roads and rules of rate-making. Among numerous changes in the provisions for consolidation it need only be noted that holding companies were specifically placed under the control of the commission. In its rate-making the commission was instructed to give due consideration to "the

effect of rates on the movement of traffic"; to the public need for efficient service at the lowest cost possible; and to the need of the carriers for revenue sufficient to provide such service. The provisions of the act of 1920 relating to rates were repealed, and "fair returns on fair value" went unmentioned. It also set up a temporary Federal Co-ordinator of Transportation, Commissioner Joseph B. Eastman, with power, subject to review by the commission, to require economies and also to make comprehensive studies of the whole transportation situation in order to suggest improvements.

In his consideration of railroad ills the Co-ordinator first examined the financial structure of the roads. On December 31, 1932, there were outstanding 23.6 billion dollars' worth of railroad securities, 56 per cent of which were bonds. During the comparatively prosperous years of the twenties the roads not only had failed to reduce their bond issues but had even increased them. Class 1 railroads, between 1920 and 1930, floated some nine and one-half million dollars' worth of securities, only 22.7 per cent of which were stock issues. To make the situation worse, a portion of this borrowing made no substantial addition to the earning power of the debtor roads; for example, the Wabash and the Nickel Plate roads, both of which later passed into the hands of receivers, increased their total of debt after 1923, with an actual decline in operating revenues from which the additional interest charges must come. The high ratio of bonds was a dangerous element in the capital structure because of the heavy fixed charges created. Any serious decrease in revenues must imperil the power of the roads to meet these obligations. In 1929 the net revenue of the roads was 1252 million dollars, a sum sufficient to pay about 5 per cent on the accepted valuation of the roads; in 1932 the net revenue fell to 326 millions. At once the effect of the disproportionate burden of debt was evident. Inability to meet their obligations has as its first effect a loss of confidence on the part of the investing public and consequent difficulty in obtaining new capital. The buyers of railroad bonds are chiefly life-insurance companies, mutual savings banks, colleges, hospitals, and other endowed institutions. It is not to the interest of the general public for such investing bodies to take unnecessary risks, and railroad bonds would inevitably be eliminated from their lists of satisfactory investments before long. Indeed, in the judgment of the Co-ordinator investors by 1932 had lost faith in the railroads, despite the well-meant legislation of 1920. As a matter of fact, during the four years of business improvement from 1933 to 1937, the mileage of railroads in receivership or reorganization, instead of falling, rose from 42,000 to nearly 73,000, almost 29 per cent of the entire mileage.

On the side of management and operation, in the opinion of the Co-ordinator, the primary need was to manage the railroad plant as a whole with

the maximum economy and efficiency; whereas in fact there are approximately 101 separate systems, each managed separately in its own interest.[1] "Between most of the larger centers of population there are competitive routes . . . As the railroads have been subjected more and more to competition from motor vehicles, waterways, pipe lines, and airplanes, they have competed more fiercely with one another." What is needed now, however, is common united action in the face of common problems; for no railroad can save itself and its stockholders alone. But long experience has abundantly shown that such common action is almost impossible to get, even with the aid and encouragement of the commission. The obvious steps, then, are combination and unification, notwithstanding the tremendous problems of administration involved. How is such combination or unification to be brought about?[2]

"Theoretically and logically [answered the Co-ordinator] public ownership and operation meets the known ills of the present situation better than any other remedy. . . . I incline to the belief that such ownership and operation will be the ultimate solution of the railroad problem. However, if and when that time arrives, the impelling motive will probably not be logic or theory, but the practical one that private enterprise and capital will not be able to carry on successfully. That has been the general experience."

Despite this conclusion the Co-ordinator declined to recommend public ownership and operation, primarily because he believed the country was "not now financially in a condition to stand the strain of an acquisition of these great properties."

Not only did the Co-ordinator oppose immediate government ownership and operation. He was also against any grand consolidation plan. Instead he favored exploring the possibilities by common action of the roads themselves. Railroad managements, who are unanimously opposed to public operation and generally to grand consolidation plans, are inevitably faced with one or the other unless they can meet existing ills otherwise. The railroad executives have set up the Association of American Railroads to bring about the desired economies by voluntary action. In its report for 1937 the commission dryly remarked: "If there have been important accomplishments by the association along these lines they have not been brought to our attention." If the railroads are to solve the problem, the solution must come by a lowering of costs and a co-ordination of service which will bring increased traffic. There is ample evidence that by and large increased rates merely serve to reduce business.

[1]First Report, pp. 8, 9.

[2]Ibid. p. 30.

The penetrating and vigorous reports of the Co-ordinator could only recommend. The railroads were free to take good advice or to flout it. One important direct result flowed from his suggestions, supported by the commission. In 1935 the Congress passed the Motor Carrier Act, bringing the whole business of interstate transportation by truck and bus under the jurisdiction of the commission. Such regulation had become clearly necessary in the development of an adequate and efficient transportation system. As at every previous time from 1887 on, the Congress thus met fresh difficulties by a fresh extension of the jurisdiction and powers of the commission. For five years debate over railroad problems continued, in the press, in the Congress, and in special committees. The act which emerged in 1940 was not impressive and promised nothing by way of fundamental remedy. The Interstate Commerce Commission was given further power over rates for water carriage; some concessions were made to the railroads and some to the farmers.

Railroad earnings during the second World War mounted to a peak of 902 million dollars in 1942 and maintained a high level throughout the war years. Refunding of bond issues or reduction of outstanding indebtedness reduced interest charges by about 25 per cent. Aside from this little was done which will make the roads better able to weather the next storm.

Unification of Railroads

For twenty-five years the Congress, the commission, and the public have recognized the fact that competition is not feasible in the railroad industry and that what is needed is a workable plan for unification. The reports of the Co-ordinator emphasized the need of the roads for common action in matters of common concern. The commission was unsuccessful in formulating a plan on which the roads could agree. The roads themselves have moved toward a greater unity, but hardly that conceived by the Congress of 1920. One method has been the increasing absorption of smaller roads into larger systems; the second, the growth in power of the Association of American Railroads, a powerful organization for common action. There is in evidence a conflict of needs and a conflict of purposes. A national transportation system unified and efficient is necessary, but a system which is able, acting through a common association or by any other means, to establish noncompetitive rates is most undesirable. To prevent the latter, the Department of Justice has filed suit against forty-seven railroads, charging collusion in the fixing of rates and violations of antitrust legislation. At the same time the Congress considers a bill to remove railroads from the jurisdiction of the antitrust laws. Railroad policy is still in doubt. We have not yet decided what we want.

It seems plain that even though the roads are for a time prosperous, we have reached a critical point in the history of American railroads and the Interstate Commerce Commission. No longer is it possible to think and act in terms of the railroads alone. Both the commission and the people must deal with the railroads as only one part of a unified transportation system, embracing highways, railways, waterways, airways, and pipe lines. The railroads are, and will remain, so far as we can now foresee, the most important element in that system. They are not moribund or out of date, as their present astonishing technical progress clearly indicates. Can we, without making fundamental changes, so modify present owning and operating arrangements as to bring about the successful working of our present system of mixed monopoly and competition under rigid control by a commission with full power to administer railroad rates? If not, should the railroads be combined into a few large, privately owned systems? If so, should such combination be compulsory? If compulsory, should the commission abandon the idea of railroad competition, and frankly establish a few great regional railroad monopolies? If none of these arrangements seems desirable, should we proceed at once to unite all the railroads in one great system owned and operated, in fact if not in name, by the Federal government? Such questions we face today. The answers may be postponed, but eventually they must be found.

CHAPTER THIRTY-SEVEN

Government Regulation of Public Utilities

THE term "public utility" is sometimes used in a broad sense to include all industries "affected with a public interest" in the eyes of the law, and therefore subject to special government regulation. In this sense of the word the railroads are a public utility, and the milk supply is rapidly becoming such. We frequently speak of making this or that industry a public utility, indicating thereby a purpose to take it out of the class of industries left to the control of a free market and to subject it to special regulation with administered prices. Historically, the term has more commonly been applied to a group of municipal-service industries, of which the chief are water, transportation, gas, electricity, and telephone service. It is with public utilities in this narrow sense that we deal in this chapter, centering attention on electric power. During the present century, with the great technical strides made in generation and transmission, the provision of electricity has overleaped both municipal and state boundaries and has become broadly regional, though retail distribution remains to no small extent local. Such provision today is therefore partly regional, partly local. Intercity telephone service began so early and has been extended so completely that we long ago forgot the early local character of such enterprise. We now properly think of it as a nationwide industry.

Public utilities of this sort are alike in two particulars. First, they are natural monopolies in the sense that service is better or costs are less in the absence of competition. Anything except a unified city-wide service in a public utility is wasteful and unsatisfactory, involving all sorts of duplication of equipment and unnecessary expense, often combined with poorer service. Two gas companies in a town are a nuisance; two telephone companies, a calamity. Secondly, these utilities require franchises to make use of streets and other publicly owned facilities. The granting of a franchise involves the surrender or transfer of the rights of citizens in publicly owned property, and the semipublic character and the special responsibilities of companies enjoying franchises are thus emphasized.

European cities in modern times have generally preferred to provide their own utilities by public enterprise. In this country, on the other hand, private companies acting under franchise have been the rule and municipal enterprises

the exception. Franchise grants have been within the power sometimes of local, sometimes of state, authorities. In the past their award has been the occasion of much corrupt action, incited by the rich financial gains they often promised. In the beginning there was some experimentation with grants to competing companies, but the disadvantages were obvious, and the system of monopoly awards came to be generally followed. The granting of monopolies immediately created the problem of controlling rates and services in the public interest, and it soon became plain that there was need for some kind of public authority with jurisdiction in such matters. As a result the state utility commissions developed.

By 1940 there was a utility commission of some kind in every state except Delaware. Many of them are simply pre-existing state railroad commissions with added powers. They have a variety of names and a greater variety of powers and functions. In some states they can do almost nothing; in others they have a control theoretically comparable, in kind if not in degree, to that of the Interstate Commerce Commission. Almost universally they have been inadequately financed and staffed. In too many of the states commissionerships have gone to politically serviceable persons and not to men of adequate equipment and training, though this is by no means always true. Occasionally the commissions have been criticized as "utility-minded" and directly or indirectly controlled by the very utilities which it was their task to regulate. The utility companies have fought regulation at every step; and with the battle raging at forty-eight state capitals, instead of being concentrated on a single front in Washington, utility regulation has nowhere attained a status comparable to Federal control of the railroads. As a whole, the results of three decades and more of state regulation are discouragingly small.

Utility regulation, as compared with railroad regulation, presents no distinctive questions of principle. Practically everything said in our chapter on the railroads applies, *mutatis mutandis*, to the control of utilities. The same questions of public and private rights are involved, and consequently the same legal and constitutional questions. The same problems of price-making and their solution in the public interest arise. The same complications of economic and political interest present themselves to increase the difficulty of finding solutions.

The Electric-Power Industry

One section of the utility field, however, is of special interest and deserves special consideration. That is the field of electric power. When the electric utilities first developed, they were local in operation. Current was produced

and distributed by relatively small units over small areas. Improvements in the industry have proceeded with bewildering speed, and today it is commercially practicable to transmit electricity over many hundred miles. As a result it has become economical to create large instead of small generating units and to transmit their product over wide areas. The technical progress of the industry has thus dictated the concentration of generation in a comparatively few large plants, located at points of specially cheap production, and the transmission of current at high voltage over long distances, to be transformed to practicable voltages and distributed at retail by local distributing systems. Large water-power plants have grown up, often at considerable distances from centers of population. The progress of twentieth-century technique, as already stated, has thus transformed the electrical industry from a local into a broadly regional one. In 1933 New Hampshire exported 71 per cent of its power; Vermont, 61 per cent. Maryland exported almost 98 per cent of what was produced within the state and imported nearly two-thirds as much. From the point of view of regulation the generation and transmission of electricity has become largely an interstate problem; distribution to consumers remains a local matter. While this technical transformation was taking place, the industry as a whole was growing with great speed. Our installed electrical capacity rose from 2 million kilowatts in 1900 to 7 million in 1910 and 35 million in 1930. During the same period our output multiplied forty-five-fold, from 2 billion to 90 billion kilowatt hours annually.

Such a growth and transformation was a paradise not only for the engineer and technician but for the promoter and financier. Side by side with technical change went changes in business organization of the greatest significance. The work of one group consisted in constructing new electric facilities; of the other, in bringing existing facilities together into greater and greater systems. Little local plants, each with its own generating and distributing apparatus, were bought up by the hundred, and tied together in systems relying on centralized generation with appropriate facilities for transmission and distribution. In this process the cost of production was usually lowered and the service improved, while rates, if not lowered, were at least not generally raised. So far as it was a process of geographical integration in accordance with the new technical requirements of the industry it was socially desirable, and the large resultant profits were legitimate profits according to the standards of private industry.

According to the survey of the Federal Power Commission, at the beginning of 1935 there were in the United States some 3550 operating companies, supplying electricity to about 25,400 communities and to 10 per cent of the rural population. Of these companies 1930 were municipally, and 1620 were pri-

vately, owned. Some of the private companies, it should be noted, operated over considerable areas and represented the absorption or consolidation of numerous predecessor companies. Of the 1620 private companies those affiliated with 57 major and 50 minor systems did a full 90 per cent of the business, while all the municipal systems and the independent private companies together accounted for less than 10 per cent. The companies of the Electric Bond and Share group alone controlled 11.5 per cent of the industry; the first four systems (including Consolidated Gas of New York, Commonwealth and Southern, and North American, in addition to Bond and Share), 30.7 per cent; the first nine, 49.7 per cent. By means, for the most part, of the holding-company device one half of this whole enormous and rapidly growing industry had been brought under the control of the handful of men at the head of nine great systems.

If this result had been attained in consequence of a purpose to bring separate units together into geographically and technically integrated systems, or even if, lacking the purpose, such had been the primary consequence, there would have been comparatively little ground for criticism, even though confidence in the popular benefits of industrial management centered in the office of New York investment bankers is distinctly less than it once was. But this was not the primary consequence, even though in many instances it was a collateral result. Primarily the result was to bring utility properties all over the United States into the hands of small numbers of ambitious men, who sometimes collected such properties at inflated prices for no better reason than to prevent their falling into rival hands. The Power Commission's map of the great utility systems in the thirties makes a patchwork crazy quilt look like an ordered geometric design. The properties of the Associated Gas and Electric system were scattered over twenty-five states all the way from Maine to Texas and Arizona, and all in the control of two persons. Bond and Share plants were found in twenty-eight states; yet these industries offer no operating economies on a nationwide scale. Looking at the same matter in another way, we find Ohio and Indiana each enjoying the services of no less than twelve of the fifty-seven major groups, and Pennsylvania and Michigan ten each.

The Holding Company in the Power Industry

It is a naïve view of the activities of bankers and promoters in the power industry during the twenties that regards them as industrial in primary intent. Big money was to be made in power, and these men were interested to make it; but it was to be made not in the creation of electric current but in financial promotion such as was discussed in Chapter Twenty-eight. Even the most

reputable financial houses engaged in pouring out floods of new securities based on an industry of apparently unlimited possibilities, while the leaders of the utility industry themselves, except for a few of the most sober, were afflicted with the prevailing madness. The result was the building up of a fantastic holding-company structure. The possibilities of the holding company for good and evil were discussed in Chapter Ten. The development of utility holding companies during the twenties affords the most dramatic illustration ever given of the evil of the device. They were used largely not for the promotion of the legitimate economic ends before mentioned but for the concentration of control in the hands of masterful men and for the immediate money gain of those who organized them and financed their flotation.

The process of combining utility properties during the twenties was thus a mad money-making game, in tune with the speculative temper of the times and culminating appropriately in the high fever of 1929. The consequences of combination were so serious as to give rise to an investigation of the entire industry by the Federal Trade Commission, acting under Congressional order. Begun in 1928, this monumental study occupied seven years. Its results fill eighty-three fat volumes. It covered eighteen holding companies, controlling a third of all utility assets, forty-two sub-holding companies, and ninety-one operating companies in these groups. Fully recognizing the possible services of the holding company when properly used, the report disclosed widespread abuses in its employment in the electric and gas industries: pyramiding to a point "involving a greedy and highly speculative type of organization detrimental to the financial and economic welfare of the nation"; almost every known abuse in accounting and in the issue and sale of securities, to the great detriment of investors and stockholders; the milking of sound operating companies for the benefit of superimposed holding companies; and so on through a long list. In the words of the commission:[1]

"The holding company, as such, performs no producing function. For that reason, in the utility field it has not been treated as a utility company and therefore has not been subject to regulations as such. It is usually subject to no regulation or control whatever. Operating utilities are the companies to which the Commonwealths have granted the charters to perform a general public-utility service. These grants imply and definitely impose reciprocal duties, but as a result of holding-company control and management, many operating companies, under the compulsion of holding-company control, have contracted away the real performance of their principal charter functions to

[1]Summary Report, Federal Trade Commission, 70th Cong., 1st Sess., Doc. 92, Pt. 73 A, pp. 64–65.

the holding company or to other companies designated by the holding company, thus leaving only a hollow corporate shell within the jurisdiction of the State where the operating company does business. The entire holding company problem has grown up under the enactment of statutes which abrogated the common-law rule which forbade one corporation to acquire and own stock in another. Corporations, including holding companies, have travelled a long way from the time when a few persons incorporated for the benefit of their combined resources and combined ownership, with the combined advice and management of the owners. Holding-company corporations have stretched this still further until often there has been practically complete divorcement of ownership from management and responsibility. In fact, the very nomenclature now adopted illustrates this. The public is no longer invited to buy an interest in the control and management of the corporation. They are invited to 'invest.' Much of the induced investment is of nonvoting stock, and even when it is of voting stock, the wide dispersion thereof makes practically impossible any combined action against any managerial group that has once acquired control. Thus instead of the corporation, on the one side, and the public, on whom it will depend for trade and revenue, on the other, as was the case originally, we have a third party of minority ownership but with management and control which may be likened to absentee landlordism. Obviously, whenever this managerial group becomes swayed with lust for power and greed for excessive profits, the many other stockholders are treated as having few, if any, rights. In many instances, such managerial groups have failed to act as trustees for their corporations and other stockholders, as in equity they are supposed to do."

In this brief sketch of the development of the power industry the student will find abundant explanation, quite aside from the reasons earlier given, for the comparative failure of state regulation of utilities, of which power had become far and away the chief. The major part of the industry, from generation to retail distribution, had passed out of the control of local companies into the hands of financial powers largely centered in New York. The operating companies might indeed still be local, but their whole policy was subject to remote control. Even their choice of supplies and of engineering service, and the prices they paid for them, had passed out of their own control into that of a distant management, whose interest in its operating subsidiaries was only in how they could be made to yield profits to the holding companies piled one on another all the way up to the top of the pyramid. If a state commission then undertook to judge the fairness of rates charged by a local company, say in Arizona, it might find that costs were controlled not by the

ability and alertness of the company itself but by policies it was obliged to accept, and bargains it was compelled to make, by men sitting around a directors' table in New York. Over them neither the local company nor the state commission could exercise the slightest influence. The industry had completely outgrown state lines. Only Federal authority was competent to deal with the problems thus created.

The Federal Power Commission

The Federal government had already entered the power field. In 1920, by a far-seeing measure, the Federal Water Power Act, it created the Federal Power Commission, consisting of the Secretaries of War, the Interior, and Agriculture, with authority to grant licenses for the development of power on navigable streams, which are under Federal jurisdiction.[2] It had no control over that major part of the industry that produces electricity with coal or other fuel, or over water-power installations made previous to 1920. Since that date, however, all generating plants on navigable streams, which includes all important ones, have had to be constructed under license from the commission, with right of recapture after fifty years. In 1934, when about three tenths of our electricity was produced by falling water, something less than one third of the water capacity, or one eleventh of our total capacity, was so licensed. The law gave the commission fairly wide control over licensees, who were required, among other specifications, to make proper depreciation charges and to follow accounting systems prescribed by the commission. That body was also given some authority over rates where state commissions were not already exercising control; but this power it was unable to exercise effectively. The law contemplated "a specified reasonable rate of return upon the actual, legitimate cost of investment," thus attempting to avoid subsequent disputes over the rate base, such as we found in the making of railroad rates. In effect it sought to insure orderly development of water-power resources, with proper construction, honest financing, adequate records, and at least some public protection as to rates. In view of the importance of return on capital investment among the costs of producing electricity from water power, the necessity for a workable theory of costs and proper control of accounting from the beginning of an enterprise should be clear. The problem of valuation in order to provide a rate base is identical with the railroad problem. Under the act of 1920 the rate-making power of the commission was negligible, but a Court ruling that the states lacked constitutional power to regulate interstate rates made extension of Federal control necessary.

[2]In 1930 the act was amended to provide a full-time, five-man commission.

The Public-Utility Act of 1935

The huge losses investors in utility holding-company securities incurred after 1929, together with the revelations of the Federal Trade Commission's investigation, lent wide support to the demand for legislation to correct the abuses that had been disclosed. The Securities Act of 1933 and the Securities Exchange Act of 1934 dealt with certain abuses as far as they existed in financial practice generally. A bill proposed in 1935 aimed specifically to put the electric and gas utility industries on a sound economic and financial footing. It was practically written out of the Trade Commission's study, and was shaped largely by the experts of the Trade and Power commissions. Its aims, however, extended beyond the prevention of the specific abuses there brought to light. It was to bring the power industry under effective public control comparable to that exercised over the railroads. To make such control possible it was necessary to get rid of the overgrown, dangerous, and tricky holding-company structure that had been built on top of the operating industry. This process was inevitably painful to the millions of persons who had bought holding-company securities under the illusion that they were making an investment, and vastly more painful to the utility leaders and bankers who had found power and profit in selling such securities. Against the proposed legislation an elaborate campaign was organized which commanded strong support from many investors who understood little of their own real interests. Public attention in consequence was centered on a single feature of the bill which was never clearly comprehended, but was popularized under the misleading phrase "the death sentence" for holding companies. The measure is in two parts. Title I deals with public-utility holding companies, defined as those holding companies which have subsidiaries engaged in the retail distribution of gas or in the electric utility business. Title II brings under control of the Federal Power Commission all companies transmitting and selling electricity at wholesale in interstate commerce.

Title I: The Public-Utility Holding Company Act

Title I requires all utility holding companies to register with the Securities and Exchange Commission, and in registering to put on record a large body of essential information. An unregistered holding company was forbidden to engage in interstate commerce after December 1, 1935; registered companies are subjected to rigid control by the commission in respect to security issues, the acquisition of subsidiaries, and many aspects of their accounting.

Section 11 of the act provides for the simplification of holding-company

systems. From January 1, 1938, each registered holding company must take steps to limit its operations to a single integrated public-utility system, unless the commission finds it more economical in respect to operation and management for the company to hold more than one system. Additional systems are to lie in a single state or adjoining states, and the combination of systems is not to be so large as to "impair the advantages of localized management, efficient operation and the effectiveness of regulation." This constitutes the much-tooted "death sentence." Except for the provision that additional systems must lie in adjoining states the section, it will be noted, contains not a line even restricting the action of holding companies which can show that their operation is economically advantageous to the public interest. It does, however, subject their operation, and in effect their continued existence, to the test of public advantage and gives the commission broad powers to see to it that they are operated to that end and not simply for the purpose of making quick profits for promoters and financiers. Furthermore, it does specifically prohibit holding companies beyond the second degree, the so-called "great-grandfather" holding companies. That is to say, only one holding company may be interposed between the top holding company and the operating subsidiaries. This is a salutary and necessary provision in view of the well-known financial dangers of pyramiding, dangers which had not discouraged the utility men from erecting the fantastic financial structures of the twenties or investors from buying their securities. Unduly complicated companies are to be reorganized, and voting power is to be redistributed. Other sections of Title I give to the commission the necessary powers and prescribe the procedure for carrying out the extensive duties imposed on it in administering the act. It would be hard to summarize the purposes of Title I better than is done in the following paragraphs:[3]

"The Holding Company Act means the end of corporate pyramiding in the electric and gas utility field with its attendant obfuscation, speculation and unhealthy concentration of control. It means, I hope, the end of improper accounting methods. It means no more write-ups and no more manufacturing of values and earnings for stock-jobbing purposes. It means an end of the exploitation and victimization of operating companies by financial prestidigitators. There will be no more private systems of inflation for the benefit of a self-appointed few. There will be no more upstream loans from operating

[3]Contributed to the special-utility edition of the Chicago *Journal of Commerce*, appearing June 20, 1938, by Robert E. Healy, who as special counsel to the Federal Trade Commission conducted its investigation of the utility industry, as a member of the Securities and Exchange Commission helped to frame the Holding Company Act, and as a member of that body was partly responsible for its administration.

companies to support their anaemic parents. There will be no more extortionate service charges, representing, in effect, special dividends disguised as operating expenses. There should be no more milking of operating subsidiaries through inadequate provision for depreciation. There should be no more tricky securities to trap the unwary investor. Voting power will be more equitably distributed. In reorganizations, the Act means that there will be no more blackmailing of senior security holders by the junior interests who may own nothing but a power to vote. It means that Government will have the right to say something as to the direction of the growth of national utility systems made up of corporations which are said to be devoted to the public service, which occupy public streets and highways and dam interstate and international rivers usually without paying for the privilege, which through delegation to them of a portion of the state's sovereignty are permitted to condemn private property, and which owe their very existence to the indulgence of government.

"On the other hand, the Holding Company Act does not mean the nationalization of the utility industry. It does not mean a death sentence for the utility industry or for the utility holding company. It does not mean that we can raise Insull Utility Investments, Inc., from the dead or that we can breathe value into securities which it was unfair to issue in the first place. Finally, it does not mean that there is to be dictatorship over the utility industry.

"It does mean lawful regulation in the interests of investors, consumers and the public, and a return to old-fashioned American conservatism and fair dealing from which we strayed in the roaring twenties."

Administration of Title I

When the act was passed, over the opposition of the utility leaders and many investors, the opinion was commonly held that the Supreme Court would declare it unconstitutional in whole or in part. The industry consequently determined for the time being to defy the law, and there was a concerted refusal of the holding companies to register as required before December 1, 1935. In addition, no less than fifty-eight suits were initiated to test the constitutionality of the law or to restrain enforcement of registration. Such action created a volume of litigation beyond the capacity of any government agency to handle, and the commission contented itself with a formal defense. Meanwhile it pushed with all possible speed the preparation of one important case, that against the Electric Bond and Share Company.

At the same time it indicated to all companies the actual advantages of registration, and endeavored to secure their co-operation in carrying out the

policies of the act. By the middle of 1937 the commission was able to report that nearly 45 per cent of the companies, controlling 30 per cent of the assets of the industry, had registered. After the decision of the Supreme Court in the Electric Bond and Share case on March 28, 1938, the remaining companies promptly followed. The Court, with Justice McReynolds alone dissenting, sweepingly upheld the power of the government to require registration, to which single issue the litigation had ultimately been confined. Every contention of the company was rejected, notably its attempt to get a judgment on other features of the act as a condition to the validity of the registration section. "We are invited [wrote Chief Justice Hughes] to enter upon a speculative inquiry for the purpose of condemning statutory provisions the effect of which in concrete situations, not yet developed, cannot now be definitely perceived. We must decline that invitation."

Once companies have registered, it becomes the duty of the Securities and Exchange Commission to enforce the remainder of the act. This calls for action along two lines: simplification of the structure of the companies and improvement of their financial practices. To the commission is left the determination of what constitutes an integrated system and (within limits) what degree of complexity is acceptable. It has moved slowly and has endeavored whenever possible to gain the co-operation of the companies concerned. The constitutionality of its power here has been affirmed by the courts in cases brought by several companies, chief among them the North American Company and the United Gas Improvement Company. Steps toward simplification may be set on foot by the commission or by the holding company itself. Hearings follow on the plan proposed. On the basis of the facts ascertained and the law, the commission issues its orders, all of which may be reviewed in the Federal courts. In the decade following the passage of the act many problems of interpretation were clarified, numerous company structures were simplified, and the process of reducing overgrown pyramids to single integrated systems moved forward slowly but steadily. Up to June 30, 1944, a total of 115 voluntary plans for compliance with the law had been filed with the commission. Of these 48 were approved, 22 were withdrawn or denied, and 45 were still pending when the commission issued its tenth annual report, which indicated the status of 21 major holding companies in all of which reorganization had been initiated. A single example will suffice to illustrate the complexity of the task devolving on the commission. In March, 1940, proceedings relating to the North American Company were begun; but not until December, 1941, was an order for the dissolution of North American Light and Power Company, a subsidiary holding company of North American, issued. In April, 1942, a second step was taken. North American was directed to divest itself

of 80 subsidiaries in 17 states, and to confine its operations to a single integrated system based on the Union Electric Company in Missouri. The holding company filed a request for a modification of the order. This the commission denied. The company then turned to the Circuit Court of Appeals, which affirmed the order of the commission. Carried to the Supreme Court, the case was delayed until April, 1946, when, by unanimous vote of the six justices who considered themselves qualified to take part in the decision, the constitutionality of Section II (b) I, known as the death sentence, was upheld and the order of the commission confirmed. The contentions of the company had been (1) that the ownership of stock was not interstate commerce and (2) that the order to divest itself of subsidiaries was taking property without due compensation. To the first the Court replied that it was true that stock ownership was not commerce, but that when considered in the context of holding companies and their subsidiaries "its relationship to interstate commerce is so clear and definite as to make any other conclusion unreasonable." To the second argument the Court responded that the right to pool investments was outweighed by the danger it involved to the public, investors, and consumers. It added that a forced liquidation of the securities owned by the North American Company was not contemplated.

The years of delay had not completely halted the progress of reorganization. North American had disposed of stock holdings in various scattered subsidiaries by distributing their shares which it held to its own shareholders in place of regular cash dividends. This accomplished two purposes: the company ceased to own the subsidiaries, its ownership passing to individual stockholders, and it conserved cash which would have been paid to stockholders. With this cash it reduced its outstanding debt. Meanwhile Light and Power, the subsidiary ordered dissolved in 1941, had first to retire outstanding debentures without the payment of the premium promised when they were issued. This the holders of the debentures protested, but the commission order was supported by the Court. It had next to dispose of its investments in a half dozen subsidiaries, a process not yet completed in 1946. This slow motion is necessary, first, because the original complexity of these structures calls for long study before suitable plans for reorganization can be evolved; secondly, because the companies may appeal to the courts for review on innumerable points; and, thirdly, because the carrying out of the plans cannot be a hasty process, even when the companies are giving fullest co-operation. It should be noted that the dire prophecies of the enemies of the act have not come to pass in the decade since its enactment and that the financial condition of the public-utility industry is far sounder today than it was in 1929.

More rapid progress has been made in the second area: accounting methods

have been improved, speculative issues or those which would lay heavy burdens of fixed costs have been discouraged. Control of underwriting with a view to modifying capital costs, supervision of intra-system service contracts, and the more equitable distribution of voting power have all made progress. Competitive bidding for the privilege of selling the security issues of public-utility companies, though vigorously opposed by investment-banking interests, is now accepted practice. The commission cannot undo the past, but it can prevent similar losses in future.

Economically, the direction that public policy is taking is clear. Just as we have already done with the railroads, so we are withdrawing power and other public utilities from the field of unrestricted private price control. At least in such monopoly industries we appear determined to have prices administered and service basically controlled by public authority and not by private business.

Title II: The Federal Power Act

Title II of the Public-Utility Act passed in 1935 is officially known as the Federal Power Act, and is in form an amendment to the Federal Water Power Act of 1920 and 1930. It gives to the Federal Power Commission authority over all companies transmitting electrical energy and selling it at wholesale in interstate commerce. This authority is essentially the same as that now enjoyed by the Interstate Commerce Commission over railroads and other interstate carriers. This means that the great operating companies now producing the bulk of the nation's electric power and transmitting much of it across state lines, hitherto subject either to the well-nigh impotent regulation of state commissions or to no regulation at all, are now brought under the strong hand of the Federal commission. The lessons learned in the course of fifty years' experience in railroad regulation were embodied in the Power Act, and the commission entered on its regulating task fully armed. The act confers on that body full control over rates and service. It gives to it important planning rights, including the right to require companies to establish physical interconnection with one another, thus paving the way to the establishment of physically integrated regional systems. Retail distribution, as a local matter, is left wholly to state regulation.

The Public and the Power Industry

The new legislation is not all. In addition to this legislative progress, and primarily responsible for it, there has been an increase of public knowledge and a movement of public opinion during the half-century since the Interstate

Commerce Act was framed. There is written into the Federal Power Act a conception of the power industry as a basic public service. The performance of this service is the task of all who take part in carrying on that industry. The Federal Power Commission is established as an agency necessary to efficient performance, and the private companies are required to live up to the standards it sets. Such standards are by no means merely negative. The commission is not simply a police agency, though unfortunately in its duty to protect the public interest it must devote much of its time and energy to policing the industry. But just as the Interstate Commerce Commission was by the legislation of 1920 and subsequent years given important duties looking to the proper future development of the transportation service as a whole, so has the Power Commission, at the very outset of its new career, been given important responsibilities for the future development of the power industry as a whole. It is directed to make comprehensive investigations regarding the water resources and power needs of any region to be developed. In order to assure an abundant supply of electric energy throughout the United States with the greatest possible economy, it is authorized to divide the country into power districts for the voluntary interconnection and co-ordination of facilities for the generation, transmission, and sale of such power, no matter from what source produced. It can at need bring about a pooling of the entire power resources of a district. It is required to obtain and keep current comprehensive information concerning all phases of the industry, and to report the results of its investigations to the Congress as a basis for legislation. The commission has conceived these duties broadly, and the results of its National Power Survey and other studies are already exercising an important influence on the development of power policy. A glance at the positive obligations thus conferred on the commission and at the conception of private business in the power industry embodied in the legislation is sufficient to mark the progress of public opinion since the day when Justice Field denied that our government had power to fix the price of anything, though it is not suggested that the "public opinion" represented by the act is by any means unanimous or indeed completely dominant.

Public Ownership of Power Plants

One further aspect of public policy calls for attention before we leave the field of public utilities. That is the progress of public ownership of water-power projects. Mixed purposes are to be discerned in the development of ownership rather than control by commission. Enough has already been said to make clear the reasons for dissatisfaction with state control of rates and

service. There has been growing realization that electric power could be made available to a far greater proportion of the population were rates lowered and facilities further developed. While there has been little interest in government ownership of the power industry as a whole, there has been discussion for a score of years of the so-called "yardstick" policy: the ownership and operation of some government plants which, at the same time that they made electric power accessible in wider areas than did private industry, would serve the more important general purpose of forcing private rates to competitive levels. Their standards of costs and efficiency would be useful to state commissions attempting to control rates. The need for public works to provide immediate employment during the depression furnished the final inducement to push government projects. These have been Federal projects, such as Bonneville, Grand Coulee, and the Tennessee Valley Authority, and local projects aided by Federal grants. By 1940 some fifteen hydroelectric projects of the first kind were completed or under way, intended ultimately to supply about 18 per cent of the existing power capacity of the United States. In addition, grants to nearly six hundred local projects, public and co-operative, have made electricity available to two hundred thousand or more rural families.

Of these Federal projects the best-known is the Tennessee Valley Authority, which while it develops a plant for the generation of power does much more than that. Other aspects of its many-sided character are discussed elsewhere; here we are interested in it as illustrative of the general power policy of the government. First, its generation of power is intended to make electricity available to the rural population of a wide agricultural area; secondly, its operation is to provide a basis for comparison with the operation of private companies, not only in this area but throughout the United States. In the actual development of its efficient use much time was lost in litigation over the constitutionality of the act providing for it and over the relation of the Authority to private companies within the region, a loss bitterly to be regretted in the light of the need for power during the war. Even so, certain results are established. The increased use of electricity among Tennessee Valley Authority customers in four years' time has been 100 per cent; that of the country as a whole, 27 per cent. Rates of private companies in the area have undergone striking decreases; the volume of their business has increased. The elasticity of demand for electric power has been completely demonstrated not only in the Tennessee Valley but in many other parts of the country, where companies have lowered their rates, sometimes with exceeding reluctance. The instant response to the majority of reductions has been a striking increase in the use of electricity in the community, accompanied by rising profits for the company. Moreover, the influence of the lowered rates has

not been limited to the companies selling power. Cheap electricity means in the home the use of more toasters and irons and refrigerators and stoves. It means the installment of electric equipment on the farms of the country. The makers of electrical devices of all kinds stand to profit in immeasurable degree by such a stimulus to their production as would be supplied by the electrification of the rural homes and farms of the country. The influence of the government's policy has demonstrated the existence of such market opportunities. It should be remembered that the waste of excess investment, with resulting duplication of equipment, is no part of the government's plans. The goal is not the substitution of public for private plants but the co-ordination of public and private generating and distributing equipment with widespread service at low cost. The same goal is sought in proposals for a Missouri Valley Authority and other regional developments.

CHAPTER THIRTY-EIGHT

Government Regulation of Industrial Trusts

THE last decade of the nineteenth century marks the beginning of a new era in American economic and legal development. The Interstate Commerce Act of 1887 and the Antitrust Act of 1890 are legislative landmarks. The years that have passed since the enactment of these measures have witnessed both economic and legal changes so profound that the United States of today is a different country from the United States of 1890. We have already examined the movement of public policy during those fifty years in respect to the railroads and public utilities, both of them natural monopolies. The growth of industrial trusts created a different set of problems, and the history of our antitrust policy cannot be understood without a clear theoretical analysis and an understanding of the character of the industries in which the trusts developed.

Price Theory and Trust Regulation

In our chapters on value we divided all industries into three classes, characterized, respectively, by unlimited competition, limited competition, and monopoly. The results of price-making under limited competition, as we indicated, are more like those under monopoly than those under unlimited competition, though the price-determining process is carried on by a small number of large competitors, not by a monopolist. It is only during recent years that this threefold division of our economy, in its price aspects, has been coming to supplant the simple dichotomy of competition and monopoly. This development of theory is of critical importance for the present chapter because, with a handful of monopoly exceptions, the great body of industrial trusts fall within the field of limited competition.[1] Our antitrust policy from its inception has theoretically been preoccupied with monopoly; actual trust problems have been for the most part problems of limited competition. As a result regulation has been in perpetual confusion, from which it is not yet rescued.

[1]The limited competition important to the earlier pages of this chapter is that created by the existence of a few dominating companies; the work of the Federal Trade Commission frequently deals with attempts to achieve product differentiation.

A further lack of clear analysis in earlier thinking must be borne constantly in mind, namely, the failure to distinguish between large-scale production, combination, and monopoly. All three of them may exist together, but any one of the three may be found without the other two. To assume that large-scale production, combination, or both together, necessarily imply monopoly is as mistaken as to assume that monopoly cannot exist without large-scale production or combination. Every automobile concern in the country is an illustration of large-scale production without monopoly, and some of them, without combination. Every chain-store system is an example of combination without monopoly and, in a large part of its operation, without large-scale production. Every patent right is a form of monopoly, and thousands of them never have any connection whatever with either large-scale production or combination. Any intelligent public policy must recognize the distinction between these three different things, but a study of our antitrust experience discloses, not alone in the thinking of the man on the street but in that of legislatures and courts as well, a sad inability to distinguish clearly among them, with consequent failure to work out policies adapted to our needs.

The Growth of Combinations

By comparison with agriculture, both manufacturing and mining have always been relatively large-scale industries. In the first half of the nineteenth century the corporation began making its way in these fields, though its earliest triumphs were in finance and transportation. Since early manufacturing and mining corporations were for the most part little more than incorporated partnerships, not corporate giants, they had no special consequence for the price-making process, nor did they at first appear as significant entities apart from the incorporators.

During the quarter-century succeeding the Civil War the corporate device was used as an aid in building up a considerable number of genuinely large manufacturing and mercantile undertakings. More important, and in the economic philosophy of the time more threatening, was the growth of combinations. They were engineered by industrial and marketing geniuses, like the first Rockefeller, who were quick to seize the immense possibilities of profit involved in substituting orderly integrated production and marketing in place of the wild scramble of small competitive units that commonly prevailed. The possibilities for increased profit were twofold: economies of production, on the one hand, and price adjustment, on the other. Under the none too squeamish business ethics of the day the practices of the combination-makers not infrequently resembled those of the tiger and the boa constrictor.

The original Standard Oil Trust, the first of the organizations which later bequeathed their name to the whole combination movement in this country, was formed without publicity in 1879 under an agreement superseded by the better-known Standard Oil Trust Agreement of 1882. Under this contract about 90 per cent of all the oil-refining capacity and pipe lines of the country were brought within a single management. The owners of the constituent concerns turned over their stocks to a body of nine trustees under a substantially irrevocable agreement, receiving in return trust certificates up to the agreed value of the securities. These trust certificates, representing the ownership of the combined properties, were transferable like shares of stock, and their holders were thus substantially in the position of ordinary stockholders in a corporation, receiving the profits of the business as far as the trustees deemed it wise to distribute them, but exercising no control over it except through their power to elect trustees at the annual meeting of certificate-holders. The trustees, in turn, were in the position of the directors of a corporation. In fact, from the point of view of actual operation and control, the Standard Oil Trust of 1882 was almost exactly like a present-day corporation; but as it was not incorporated, it escaped even the relatively scanty requirements of publicity and control at that time imposed on corporations. Managed with consummate shrewdness and with the highest industrial and financial skill, controlling nine tenths of the oil-refining business of the country, and carrying the ruthless competitive practices of the period right up to and occasionally beyond the limits set by the lax laws of that day, the Standard Oil Trust promptly became the supreme example of the overshadowing monopoly that menaced the life of the independent businessman. In popular thinking it was the embodiment of all those reprehensible practices by which it was believed that monopoly developed itself at the expense of honest competitive industry.

The business of the Standard Oil Trust was thoroughly well managed, highly successful, and extremely profitable. Its example was followed during the eighties in half a dozen other industries: cottonseed oil, linseed oil, whisky, and sugar. Most of these trusts were less well managed than the Standard, and some of them promptly broke up. Combinations were not limited to the trust form. Some united previous competitors by merger into a single new corporation; others utilized the holding-company device. Unions of the early nineties include many well-known names, such as Diamond Match, American Tobacco, United States Rubber, General Electric, and United States Leather. Whatever form they took, these associations came to be popularly known as trusts, and we shall use the term "trust" not in the legal meaning above described but in its loose popular sense, as a combination seeking or possessing,

or at least supposed to possess, some degree of monopoly power.[2] As the first great wave of combination rolled in, thoughtful and thoughtless opinion alike became concerned lest the independent businessman be overwhelmed by its flood. Such concern led to a considerable body of state legislation, and several suits were brought against trusts (in the strict legal sense) or against corporations whose stock had been trusteed. State attorneys general usually attacked such trusteeing on the ground that the corporations had exceeded their legal powers or that the agreements themselves were contrary to the common law as tending to create monopolies or combinations in restraint of trade. Successful action was maintained against members of the Standard Oil trust in the early nineties, but it soon became evident that state action would prove inadequate against combinations that already overstepped state lines.

The passions of those days are long since cooled. We have come by and large to accept not only large corporate units but also business combinations as more or less inevitable, economical, and possibly desirable; but it is impossible to understand the history of our antitrust legislation without remembering the almost religious devotion to independent, small-scale enterprise that characterized American thinking half a century ago. Such devotion found specially congenial the theory of unlimited competition that constituted the staple of economic thinking of the time. It also helps to explain the character of our legislation and court decisions.

The Antitrust Act of 1890

The demand for Federal legislation of some kind to protect the imperiled liberties of the great body of small businessmen threatened by the growth of monopolistic combination had led, even before the developments of the nineties, to the passage of the Antitrust Act of 1890, popularly known as the Sherman Act. The simplicity and generality of the measure sufficiently indicate the state of mind of its framers. They felt that something must be done, but were by no means sure what to do or how to do it. The act applied only to interstate commerce and in Section 1 declared illegal "every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce"—a provision that did no more than put into statutory form the ancient common-law prohibition against contracts in restraint of trade.

[2]In their standard work on *Trust and Corporation Problems* Seager and Gulick define a trust as "an industrial combination, not a legal nor a natural monopoly, which seeks to escape the restraints and avoid the wastes of competition by absorbing, controlling, or forcing out of business its would-be competitors, or by acting in concert with them in fixing prices or regulating outputs." Our dependence on this book will be evident throughout this chapter.

Section 2 similarly declared that "every person who shall monopolize, or attempt to monopolize, or combine or conspire" with others to monopolize any part of trade or commerce shall be guilty of a misdemeanor. Violators of either section were made subject to fine and imprisonment, and the Federal courts were given power to restrain violations by injunction. Moreover, any person injured in his property or business by such violation was given the right to recover threefold damages in a civil suit. The law was in fact little more than a legal expression of the popular horror of monopoly, an exhortation to the prosecuting officials and the courts to suppress it, and a notice to anyone injured by it that he might collect damages. It embodied no serious economic analysis and rested on the widespread assumption of its time that unrestricted competition automatically brings in its train good service and low prices. As suggested earlier in the chapter, it took no adequate account of the possibility that large economies might arise from combination and large-scale production, all question of monopoly aside. In popular and to no small extent in official thinking bigness was synonymous with badness, and the Antitrust Act was in fact largely a weapon designed for the use of little business against big.

It is easy to see after the fact that a statute of this character, thus enacted, was bound to be ineffective, if for no other reason than because the day of economical large-scale business and combination had arrived. Businessmen could often make substantial economies by large-scale production and combination, whether or not they attained monopoly in the process; also, the actual process of combination itself was highly profitable to promoters and bankers. The Antitrust Act, cast in general terms, did no more than pass on to the courts the task of evolving from it a body of workable rules by which businessmen could be guided in their everyday actions and in the evolution of more or less inevitable combinations. The process of giving definite meaning to the law had to be performed by the courts in deciding particular cases in which suit was brought against alleged violators. To show the difficulty of that task we shall touch briefly on a few outstanding cases.

The Courts and the Antitrust Act

In the E. C. Knight case (1895)—involving the legality of the action of the American Sugar Refining Company, a New Jersey corporation, in buying four Philadelphia refineries—the government's brief failed to emphasize the monopolistic character of the combination thus effected, and the Supreme Court held that a combination of manufacturers did not constitute an illegal restraint on interstate commerce. The practical result was that for many years lawyers

continued to advise their clients, and with apparent good reason, that the Sherman Act did not apply to manufactures and mining, the fields where it was most needed.

In the Trans-Missouri Freight Association case (1897) and the Joint Traffic Association case (1898) the Court held, on the other hand, that the act did apply to railroads—and that, too, although the Congress had set up a special agency for railroad regulation in 1887. The question then arose, Were the acts complained of illegal under the statute? The railroad agreements in question provided for common action to maintain "reasonable rates," and the minority of the Court in a strong dissent urged that the agreements were reasonable and necessary to control destructive competition between the roads, that the words "in restraint of trade" had come through centuries of usage to mean only "in unreasonable restraint of trade," and that the agreements were therefore not illegal under the Sherman Act. The majority, however, relied on the simple language of the act, which forbids "every contract . . . in restraint of trade or commerce." This language, it declared, applied to railroads, which were themselves instruments of commerce; and further, it prohibited all contracts, whether reasonable or unreasonable, in restraint of trade, though the very opinion in which this position was most strongly stated cited no less than a half-dozen kinds of contracts confessedly in some measure restraining trade and yet never held by the courts to be in restraint of trade. From 1897 forward, therefore, by a five-to-four vote of the Supreme Court, all contracts, reasonable or not, in restraint of trade fell under the prohibition of the Anti-trust Act; yet businessmen found themselves tempted and indeed constrained to make contracts and combinations that on almost any rational interpretation seemed to fall within the forbidden category, and they continued to make such contracts. We cite here only one further decision. In the Addyston Pipe case (1899) the Court held that a pooling agreement among manufacturers of iron pipe to control prices through production control and collusive bidding was contrary to the law because it concerned directly the selling of pipe in interstate commerce. Manufacture, under the doctrine of the E. C. Knight case, was not commerce; but manufacturers, nonetheless, might not combine for the direct purpose of controlling the price of their product in commerce.

These selected cases illustrate a few of the difficulties confronted by the courts in trying to give concrete meaning to the Sherman Act. They also show some of the unexpected situations in which the courts decided that the act did apply and some of the expected ones in which they concluded that it did not. They illustrate the pitfalls that lie in even so apparently comprehensive a phrase as "every contract . . . in restraint of trade." They help us to understand, at least in part, why a full decade of litigation under the act gave it little

definiteness, why businessmen and their lawyers came to hold it of comparatively little practical importance, and why they probably followed much the same lines that they would have followed had the antitrust law never been written. The Department of Justice acted only sporadically for enforcement of the measure; and even if it had been greatly interested, it lacked the personnel and the funds necessary for effective action. In the cases that came to trial the courts, as we have shown, were puzzled by the novelty of the economic questions presented for adjudication, and no clear line of application developed. It is scarcely an exaggeration to say that the enforcement of the Antitrust Act during its first decade did nothing toward the achievement of the vague objectives that were in the minds of those who wrote it. Businessmen came to believe that, while they must beware of loose marketing agreements, they might create holding companies or mergers at will.

The Great Era of Trust Formation

The real explanation of such failure, however, is economic and not legal. It is suggested by our preliminary criticism of the earlier thinking in this field. By the time the Sherman Act was passed, the advantages of large-scale production and of combination, quite aside from the possible profits of monopoly, had become clear to businessmen. They were eager to make monopoly profits, of course, and they used monopoly power recklessly when they got a chance, as is shown clearly by the story of prices in the early days of the whisky trust, the wire-nail pool, and other combinations of the eighties. But they were eager also to make the gains arising from the economies inherent in integrated large-scale production. Once more the Standard Oil Company is a good example. It suffered deserved public execration because of its ruthless competitive practices, as well as its monopolistic price policies wherever it acquired a monopoly. Standard Oil profits, however, came not from these sources alone but from the economies of skillful and far-flung organization.

During the twenty years following 1890 the government was proceeding against big business on the theory that it was animated primarily by a desire for antisocial monopoly profits. At the very same time big businessmen were proceeding with their combinations on the theory that such combinations lessened the cost of doing business, which was often true, and that the public in consequence enjoyed lower prices, which was sometimes true and sometimes untrue, as can be understood by recourse to the principles of price-making at work. The double issue was nowhere clearly perceived; small businessmen saw their great competitors only as grasping monopolists; large businessmen, busy with great combinations, saw government policy only as a blind and blundering

effort to prevent them from taking action that in their belief increased business efficiency and their own profits at the same time. They found the antitrust legislation something of a nuisance, but their lawyers were able to advise them in such fashion that they for the most part escaped its clutches.

Pursuing the double aim of monopoly profits, contrary to the Antitrust Act, and of the economies of combination, not dreamed of by the writers of that measure, the industrial and financial leaders of the country during the years 1897–1903 carried through the most extensive process of trust formation in our history. During the period 1879–1896, according to Seager and Gulick, not more than twelve important combinations were formed, with a total capital of less than $1,000,000,000. On January 1, 1904, on the other hand, there were no fewer than 305 industrial combinations in active operation, with a capital of more than $6,700,000,000. These authors calculated that by that time combinations controlled at least two fifths of all the manufacturing capital of the country. Most spectacular of all these was the United States Steel Corporation, launched in 1901 with a capitalization of a little more than $1,400,000,000. The financial magic of J. P. Morgan brought a full three fifths of the steel capacity of the country under control of a single holding company. In 1901 the billion-dollar trust had arrived.

Enforcement and the Rule of Reason

A new period in enforcement of antitrust law had also arrived. The accident of a madman's bullet had brought Theodore Roosevelt to the White House. Like his predecessors, he sensed both the political and the economic dangers of any serious effort to put teeth into the Sherman Act; but, perhaps unlike his predecessors, he realized also the possibilities inherent in coming forward as the champion of the common man against those fearsome enemies the "malefactors of great wealth." His trust-busting campaign was carried forward on two fronts.

First, and wisely, since no one really knew just what to do, the President in 1903 secured the establishment of the Bureau of Corporations, predecessor of the present Federal Trade Commission. Its chief duty was to make investigations of large corporations, and a long series of valuable reports which aided in directing later legislative and judicial action demonstrated the wisdom of the move.

More spectacular was the series of trust prosecutions that marked the first dozen years of the present century. In the Northern Securities case (1904) the government successfully sought dissolution of a New Jersey holding company by which the two great competing northwestern railroads, the Northern Pacific

and the Great Northern, had been brought under single control. This decision of the Court indicated that combining companies gained no immunity from the antimonopoly policy of the Federal government by obtaining a holding-company charter from a state. The practical result of the ensuing decree, however, was almost nil. Since the Securities Company was allowed to distribute the railroad shares which it owned pro rata to its own stockholders, the control of both roads was left in the hands of the Morgan financial group, where it had been in the holding-company days. We pass over other cases of this decade, in which also the government won legal victories but accomplished little in staying the process of combination, though it perhaps did something in sharpening ideas of what constituted objectionable monopolistic practices.

In 1911 came perhaps the most important decision and opinion in the history of the Antitrust Act to that time. Utilizing the investigations of the Bureau of Corporations, the government in 1906 brought suit against the Standard Oil Company of New Jersey, the holding company of the Standard Oil group of companies. Five years later the Supreme Court by unanimous decision ordered the company dissolved. In the opinion, it laid down the doctrine that for many years remained the heart of the antitrust law. Making its own the minority opinion of the Trans-Missouri and Joint Traffic Association cases, the entire body of justices now declared that the act prohibited only contracts in unreasonable restraint of trade, thus enunciating as law the so-called rule of reason that previously had been only dissenting opinion. The rule of reason, while it thus became law, was derived, it will be observed, not from the statute, or even from previous court decisions, but from the common sense of the judges applied to a concrete business situation that required toleration of large combinations.

Having thus established the general principle, the Court next proceeded to examine the particular acts complained of, and condemned them out of hand as showing a purpose to restrain trade and create monopoly. The conduct condemned included

"the acquisition here and there . . . of every efficient means by which competition could have been asserted, the slow but resistless methods . . . by which means of transportation were absorbed and brought under control, the system of marketing . . . by which the country was divided into districts and the trade in each district in oil was turned over to a designated corporation within the combination and all others were excluded."

In the process of dissolution holders of Standard Oil of New Jersey were given pro rata shares in each of the thirty-three corporations held by that company. The practical result, just as in the Northern Securities case, was that control

after dissolution rested exactly where it had lain before that process, in this instance in the hands of the small group of men who ran Standard Oil. In the six years succeeding dissolution the value of shares in the holding company, some of which were not for a long time exchanged for shares of the subsidiaries, rose almost fourfold.

After twenty-one years of wrestling with the Antitrust Act the Supreme Court had arrived at this much of clarity: the act prohibited only contracts and combinations in unreasonable restraint of trade, but every contract or action disclosing a purpose to achieve monopoly constituted unreasonable restraint. During the subsequent thirty years that doctrine has been maintained and developed, though its inadequacy as a tool for dealing with contemporary economic conditions has become increasingly clear as we have come to a better understanding of limited competition. Dissatisfaction with the vague language of the act was not allayed by the Court interpretations, and the demand for more specific legislation grew steadily more insistent.

The Clayton and Trade Commission Acts

In 1914 the Congress substantially amended the Antitrust Act in the light of almost twenty-five years of experience. The Clayton Act, passed in that year as an amendment to the Sherman Act, specifically prohibited price discriminations, exclusive selling or leasing contracts (so-called "tying contracts"), holding companies, and interlocking directorates, whenever the effect of the prohibited act or arrangement "might be to substantially lessen competition or tend to create a monopoly." These prohibitions are no miracle of clarity, but at any rate they are less vague than the provisions of 1890. Corporation directors were made personally liable for violations of penal provisions by their corporations; and individuals, and not simply government officers, were permitted to secure injunctions to restrain continued violation of the Antitrust Act.

The Federal Trade Commission Act, passed at the same time as the Clayton Act, provided new machinery for enforcement. The commission that it set up was to take over, in the first place, the powers and duties of the Bureau of Corporations and might require annual and special reports from corporations. It was to investigate corporate practices not in accordance with the antitrust acts and to recommend readjustments, to investigate the way in which court decrees affecting corporate combinations were being carried out, and, on request of a court, to advise as to the form any decree affecting an industrial combination should take. Most important of all, it was given power to prevent unfair methods of competition by investigating complaints of such and, if they

were proved, after proper hearing, by issuing "cease and desist" orders. These orders might be enforced, however, only by the Federal courts on application of the commission, opportunity thus being afforded for proper judicial review of any commission order. In the words of Seager and Gulick,[3]

"the legislation of 1914 represents a new conception of the trust problem. The trust is no longer an ogre which is to be bludgeoned into submission with the club of a dissolution suit, but rather the result of a number of malignant growths each of which must be cauterized if the body upon which they have fastened is to be restored to health and vigor."

We should prefer to go somewhat further: it recognizes, albeit dimly, that not all growths are malignant. No statute can take the place of the courts in determining which particular growths are malignant and which are not; the enactment of 1914 prohibits only acts whose tendency is to lessen competition or to create monopoly, not those whose tendency is simply to promote the growth of big business or of combination.

Both litigation and the activities of the Trade Commission under the laws of 1914 show a change in government policy, which reflected a change in public sentiment. Monopoly was still forbidden, but the real effort of the government was expended on the maintenance of "fair" competition. In the United States Steel Corporation case (1920) the Supreme Court by a vote of four to three, with two justices not participating, declined to order the dissolution of that great combination, essentially on the grounds, first, that it was a "good" trust, that is, one that does not use unfair methods of competition, and secondly, that its dissolution would involve "a risk of injury to the public interest, including a material disturbance of, and it may be serious detriment to, the foreign trade." The decision indicated a growing tolerance of arrangements designed to lessen the wastes of competition, even though they also lessened competition. That there were certain evils which resulted from bigness itself the Court ignored.

Trade Associations and the Antitrust Laws

Arrangements to lessen such waste tended to take the form of so-called open-price associations in the many industries where there were considerable numbers of competitors. Trade associations of various kinds had existed for decades. Such an association is defined by the American Trade Association Executives as "an organization of producers or distributors of a commodity or service upon a mutual basis for the purpose of promoting the business of its

[3] *Trust and Corporation Problems*, p. 426.

branch of industry or commerce and improving its service to the public." Within the trade-association group there developed about 1911 a specialized activity in distributing or exchanging among members information on prices, production, stocks, sales, and other like matters, so that each member might be better acquainted with conditions throughout the industry and might presumably direct his own activities more intelligently. On the basis of such information each competitor was supposed to make his own decisions and to set his own prices; hence the name "open-price" associations. Activity of this kind might bring about more wisely directed competition, but at the same time it offered temptations to price-fixing and other collusive action that plainly came under the prohibitions of the Antitrust Act. Trade associations of all kinds were strongly encouraged by the government during the first World War, as a means of securing the co-operation of industry in the all-important task of maximum production, and at the end of hostilities their number was more than a thousand. Thus encouraged in collective action, it was inevitable that some of them should sooner or later run afoul of the law.

In the American Hardwood Manufacturers' Association case (1921) the Supreme Court, on the basis of minutes of association meetings and market letters tending to show some agreement on price and possibly some restriction of production, held members of the organization guilty of co-operating "to suppress competition by restricting production" and "to raise price regardless of cost or merit." The decision led to a belief that all trade associations were illegal, a belief strengthened by the decision against the Linseed Crushers' Council two years later. In 1925, however, in the Maple Flooring Manufacturers' Association and the Cement Manufacturers' Association cases, the Court held members of the associations blameless because the evidence did not disclose that their concerted action had a "necessary tendency . . . to destroy the kind of competition to which the public has long looked for protection." During succeeding years the Trade Commission and the Department of Commerce very sensibly encouraged many types of trade-association activity making for efficiency, economy, and higher standards of competition among members of the groups concerned. Indeed, the trade-practice conferences fostered by the commission became highly important in setting limits to competitive practice, and certain of their findings when approved by the commission had essentially the force of law.

Other Problems of Interpretation and Legislation

The very growth of tolerance on the part of the Court increased the complexity of its task, which became in large measure economic rather than legal.

Aside from questions created by the activities of trade associations, it wrestled with discriminatory marketing methods, among other things trying to decide in specific instances whether quantity discounts given to large buyers, like the chain stores and mail-order houses, tended to give such buyers a monopoly in distribution, and whether they were therefore contrary to the statutes. Meanwhile new legislation shifted the emphasis of the body of regulatory statutes and further complicated the problems of the courts and the commission. This legislation in a measure modified the expression of legislative condemnation of monopoly; in fact, the National Industrial Recovery Act of 1933 seemed actually to reverse earlier policy. In a vain effort to bring about business revival, it encouraged all units within an industry to function under a common code. At the same time it suspended the operation of the antitrust legislation. When the decision of the Court brought this act to an end, the trust laws once more became valid legislation; but they have been somewhat weakened by two later enactments.

The Robinson-Patman Act of 1936, while stating more broadly than earlier laws the prohibition of all price discrimination that injuriously affects competition, specifically permitted, under commission regulation, proper quantity discounts when it could be shown that the larger sales were made at smaller unit costs. This gave to both commission and manufacturers important new accounting duties. A second change was made by the passage of the Miller-Tydings Act in 1937. For years the commission had opposed sales under contracts which provided for resale price maintenance, that is, contracts whereby producers or wholesalers controlled the retail price. The act of 1937 specifically legalized such contracts in connection with sales in all states whose laws recognized the legality of price maintenance. This amendment of the body of antitrust legislation evidently strengthened the position of the manufacturer of nationally advertised goods by freeing him from the menace of the price-cutting retailer. Whether such a measure on the whole makes for an increase or a diminution of "the kind of competition to which the public has long looked for protection," and, specifically, whether it makes for higher prices to the consumer, is still a matter of controversy and will doubtless continue to be disputed until the body of factual data is more comprehensive. The apparent disagreement between the commission and the Congress over resale price maintenance only illustrated the difficulty of the task facing the Congress, commission, and courts in their joint efforts to prevent monopoly and at the same time to preserve the good and destroy the evil in competition, in order to protect the consumer's interests. By contrast with the two acts mentioned, the Wheeler-Lea amendment of 1938 made unlawful not only "unfair methods of competition" but also "unfair or deceptive acts or practices in commerce,"

and likewise false advertisements of food, drugs, devices, or cosmetics, thus adding to the list of unethical competitive practices which it is the duty of the commission to prevent and making the protection of the consumer its explicit responsibility. The new legislation has practically ceased to deal with the size of the business unit and has come to apply essentially to unfair methods of competition in order to protect the consuming public, rather than the small businessman.

The Work of the Federal Trade Commission

A review of the work of the commission shows its changing interests. We pass over the body of special investigations, more than a hundred in number, some of them undertaken on its own motion but most of them on request of the Congress, the President, or other agencies. Many of the commission's studies, particularly in the early years, were addressed to the existence of alleged monopolistic conditions, but even a cursory examination of a few of the resulting reports indicates that actual monopoly has been but one of several interests of the investigators. They have studied the operation of many industries, to show how they work, primarily with a view to the safeguarding and improvement of competition. It goes too far to say that the commission has abandoned the attempt to prevent monopoly, but certainly that has ceased to be the primary aim of its work. It still investigates monopolistic practices such as tying contracts, price agreements, and collusive bidding, among small businesses as well as large, but this constitutes a comparatively minor part of its activities. These activities are described in the commission's own enumeration of its functions as (1) legal activities and (2) general investigations of economic conditions in interstate and foreign commerce. Its legal activities are concerned with (*a*) prevention and correction of unfair methods of competition and unfair or deceptive acts or practices; (*b*) administration of Section 2 of the Clayton Act and the Robinson-Patman Act, dealing with price and other discriminations, and sections 3, 7, and 8 of the Clayton Act, concerned with tying contracts, with acquisition of capital stock, and with interlocking directorates; (*c*) administration of the Export Trade Act; and (*d*) the Wool Products Labeling Act of 1939, designed to protect industry and consumers from fabrics masquerading as wool. Of the 331 complaints which it issued in 1939–1940, 25 dealt with practices in restraint of trade and 220 with false and misleading advertising. This in itself suggests the relative importance of these two aspects of the work of this body.[4]

During the fiscal year 1945, when much of the work of the commission was

[4]Annual Report of the Federal Trade Commission, June 30, 1940, pp. 1, 3.

concerned with surveys of priorities for war industries, it still issued 164 formal complaints alleging violations of the laws it administers, and accepted 286 agreements to desist from unfair practices. As an agency for enforcement of the Antitrust Act the commission's outstanding achievement is perhaps its order in the "Pittsburgh-plus" case (1924) requiring the steel companies to desist from making prices on the basis of the Pittsburgh price plus the freight from Pittsburgh to the price-making point. In its report for 1929 it estimated the annual saving to consumers in the West and South as a result of this order at the generous sum of $150,000,000. Its reports are filled with examples, many of them of a minor nature, of gains to the public and to industry itself believed to have been brought about by orders leading to the abandonment of practices that it considered unethical and economically wasteful. The partial list of unfair methods of competition prohibited in cease-and-desist orders occupies almost four pages of one report and covers nearly every imaginable sort of misrepresentation, but has little to do with monopoly.

The most striking feature of commission activity from this point of view is the trade-practice conferences to which earlier reference was made. A Division of Trade Practice Conferences was created in 1926; if a substantial majority of the members of an industry so desire, application may be made for a conference under commission auspices. The application sets forth "the various unfair methods of competition, trade abuses, and uneconomic and unethical practices" that the applicants desire to eliminate, but other matters also may be brought up. The rules adopted by the conference, if approved by the commission, are sent to all members of the industry for assent. Thereafter, as far as the practices prohibited can be brought under the commission's interpretation of unfair methods of competition, that body employs its regular procedure against them. More than 150 industries now operate under trade-practice rules which the commission has approved. Plainly the trade-practice conference is a means of raising the level of competition, not of preventing monopoly.

As the emphasis of the work of the Federal Trade Commission has shifted, another agency has turned with great vigor to the enforcement of antitrust legislation. This is the Antitrust Division of the Department of Justice. In the past it was understaffed and largely passive, acting only at the instance of the commission, but by 1941 it had become chiefly responsible for the most recent phase of trust control. With the avowed purpose of protecting the interests of the consumer by maintaining a "free market," this division has launched suits in half a dozen cities, concerned with such things as the price of milk, building costs, and electrical contracts, where it was believed that economies of industry were not being passed on to the public. Both civil and crimi-

nal suits have been brought when it found evidence of restraint of trade or price-fixing. Steel manufacturers were charged with fixing the price of stainless steel; film companies were indicted for refusing films to certain theaters; labor organizations and business concerns in the fur industry were accused of conspiracy to keep out of New York companies not members of the group; chemical companies were fined for controlling the price of drugs vital to the prosecution of the war. On the other hand, suits on many fronts, pending at the outbreak of the war, were suspended lest the energy of industry and of the government be diverted from the business of effective fighting. If the temper of the Department of Justice has not changed, the postwar years will see indictments for monopoly or restraint of trade and price control involving a large area of our economic life.

Among the postwar problems which await solution are restraints of trade under cover of patent privileges. These, for many years well known in the courts, received scant general attention until the depression years of the thirties. In that decade the growing belief that any form of monopoly augmented unemployment, reinforced by the disclosures of the Temporary National Economic Committee (soon to be discussed), roused some interest in patent reform. Far more potent in turning public attention to the prevailing abuses of patent rights were revelations of the way in which patents had been used to hamper American technical advance and thus hamper military needs. Only a few of the monopoly practices permitted by our patent system are offered here by way of evidence that a revision of our patent laws may well be the next piece of antitrust legislation. The underlying idea of the patent is, of course, a monopoly idea, but it is a monopoly limited in time and circumstances. Seldom does a single patent give to its holder control of an industry. Rather it confers a means of differentiating one patented product or process from another. The fountain pen with which you write is distinguished from other fountain pens, all patented, but the patent held by the Parker does not operate to drive the Shaeffer off the market. Modern ingenuity, however, has found devious ways to extend the privileges and the power conferred by these grants. The first of these are unfair competitive methods; the second look to restraint of trade by agreement or even to monopoly.

One of the most troublesome of the competitive practices is the infringement suit. This entirely legitimate means of protecting one's rights in the courts may be used with equal ease and under cover of the law to drive a weak competitor out of business. By bringing fictitious charges of infringement against him and carrying the case from court to court, he may be subjected to heavy expenses before his business is securely established. By means of the device known as the "umbrella patent," one with claims so broad that

infringement is difficult to disprove, established companies have sometimes "blackmailed" potential rivals by the threat of infringement suits. Whether actual or merely threatened, they have proved a most effective means of preventing free entry into some businesses. If they fail to keep the newcomer out of business, he may be "fenced in." By patenting all possible variations on the machine for which the intruder holds the basic patent, the older concern may cut him off from any possible improvement of his original equipment. The Hartford Empire Company testified before the Temporary National Economic Committee that one of its purposes in securing patents was the desire to fence in its rivals so that their machines could not be perfected. Progress is blocked also by the purchase and suppression of patents which might serve to build up other companies. This has been a practice of General Electric, which, by buying many patents that it will never use, protects its market for electric bulbs.

That such competitive methods are socially undesirable calls for no argument, but they have perhaps been less generally known and condemned than have been uses of the patent even more obviously directed to restraint of trade or creation of monopoly. Tying contracts, by means of which a patented article is sold only to those who agree to take some other commodity with it, have usually been declared illegal under our existing laws; but the patent pool, beneficent or injurious according to its use, has seldom been dissolved by the courts. Under a pool a group of companies may transfer the control of all their patents to an independent body created for the purpose of holding them, or each company may make its patents available to all the members of the pool by cross-licenses. Thus infringement suits are done away with, and all the member companies have access to advances in technology which might otherwise be closed to them. Carried no further it might be beneficial. Too often, however, the pool is confined to a limited group and becomes an effective instrument in giving it control of an industry. Again the glass-container industry, dominated by the Hartford Empire Company, offers an excellent example. If the infringement suit prevents the entry of new enterprises or the pool creates monopoly control, we have all the possibilities of higher prices, restricted production, and reduced employment which make monopoly a threat to national well-being. Such reasoning was responsible for the early demands for patent reform, but the discovery that patents provided one means by which American companies were linked with companies in enemy countries added new vigor to the movement for revision of our patent policy. Political and military as well as economic considerations were here involved. To discuss the place of patents in these foreign relationships calls for the consideration of a form of combination not yet touched upon.

The International Cartel

In the years between the two World Wars a new word came into our vocabularies and a new aspect was given to the combination problem. The word is "cartel," long used in Europe to designate any business combination to restrict competition. In this country we commonly apply it to arrangements whereby concerns in different countries act together to reduce or regulate competition. The arrangements take many forms. They may be formal agreements to control prices or to restrict production or to divide the market geographically. They may be common selling agencies or a series of patent cross-licenses. In 1939 the Department of Justice had evidence of the existence of 179 international cartels, and the League of Nations estimated that at least 32 per cent of international trade was controlled trade. The object of a cartel is, of course, to obtain larger returns than could be obtained without it. Each member of the arrangement has his sheltered territory into which the other members do not intrude.

This brings us back to the subject of patents. During the war the Office of Alien Property Custodian took over the enemy interest in agreements between American firms and enemy concerns. In a sample study of 333 of the agreements seized it was found that in 44 per cent of the agreements there were provisions for cross-licensing of present and future patents. A greatly simplified statement of the agreement of General Electric will illustrate the working of a patent agreement. General Electric grants to foreign companies the right to use its patents in specified countries. General Electric itself agrees not to enter the exclusive territory. In return it receives from each company in the cartel exclusive right to use any or all of its patents in making lamps in the United States. Thus no cartel member competes with General Electric here, and General Electric shuts itself out of most of the markets of the world. This cartel included firms in England, France, the Netherlands, Germany, Italy, Japan, China, Mexico, and Brazil. Its administrative agency was the Phoebus Company, with headquarters in Geneva. In addition, there were various committees and control boards as complicated as the organization of a world government.

The friends of cartels—and they are not without their friends—argue that they make for "price stabilization," by which they mean that they create inflexible prices; that in periods of cyclical depression they prevent business failure; that they reduce the wastes of competition and, by their quota arrangements, prevent the overexpansion of facilities. They seldom call attention to the fact that these arguments, if accepted, spell the end of a system of free enterprise. Their opponents point out that they embody all the eco-

nomic evils of monopoly. They raise prices, they restrict production, they curtail employment, they tend to limit investment opportunities. In addition, they are fraught with political dangers which cannot be ignored with impunity. What course the United States will take is not yet clear. Nor is it certain to what extent our present antitrust laws extend to the international commitments of our industrialists.

Summary of the History of Antitrust Policy

On review it appears that our antitrust policy during its first twenty years wandered about in the mists of confusion between monopoly, large-scale production, and combination, all of which seemed to wear much the same face. With that confusion somewhat cleared, the authorities girded themselves for a new bout with the supposed real enemy, monopoly, which was still believed to come into existence only because of the existence of the dark brood of unfair competitive practices. For a full quarter-century now our enforcement agencies have been busy with the prevention of such practices, only to make the discovery that they are concerning themselves more with the activities of small concerns than of large, and that the little concerns sometimes complain at being deprived of competitive advantages they once enjoyed. Meanwhile the corporate giants—whether independents like Ford or combinations like General Motors, General Electric, or United States Steel—go their own magnificent way, moving for the most part in the heat and dust of sharp nonprice competition, yet pursuing much the same Olympian price policies as an intelligent monopolist like the telephone company, and the same production policies as any intelligent producer whose output is proportionately large enough to affect prices significantly. They operate in a world of limited competition, where they cannot reasonably be attacked as monopolists; nor can they be harried by limitations on unfair competitive practices, which are most common among smaller concerns and in the field of limited competition.

When the history of our attempt at the regulation of industrial trusts is examined, we thus note a significant development of policy. We have used the original purpose of preventing monopoly as the excuse for action in no way connected with it. "Unfair methods of competition" have ceased to be only those calculated to restrain trade or to create a monopoly. The commission has also gradually shifted its emphasis from the protection of small business against large to the protection of the consumer against both. It has thus become an agency for raising competition as a whole to a higher plane, causing it to perform better the services it is supposed to accomplish. It does little to check the evils of limited competition or monopoly.

In simple fact, in the face of the dominant position of these semimonopolistic giants that have grown up chiefly because they could do the work of production more economically than a multitude of small concerns, our historic antitrust policies have become irrelevant to the most important economic problems of government regulation. Those policies have been based, and are based today, on the assumption that the competition of "free enterprise," properly safeguarded, will effect the necessary co-ordination of all parts of our economy, except a relatively small monopoly section, so as to assure abundant production and prices which pass on to the consumer the benefits of new economies of production. Today many competent students, recognizing the prevalence of limited competition, no longer believe that the prevention, first, of monopoly and, secondly, of unfair competition will bring the most important abuses of big business under control. As a result of this change in the conception of the problem there is a growing opinion that we must search for new methods of control or make new application of the old ones.

In our chapters on value we showed that limited competition works differently from unlimited; we showed that our price system, made up partly of flexible and partly of inflexible prices, does not, and cannot if left to itself, bring about the equilibrium necessary to the continuous functioning of the system to capacity. We have now endeavored to show why our antitrust policy has failed to solve this problem, which in fact it was never created to solve. To prevent preventable monopolies, and within the competitive part of our economy to bring about the perfect operation of the regulator which has been our reliance for co-ordination in the past, namely, competition, has been the aim and scope of our antitrust legislation. Vigorous enforcement to these ends has marked certain periods of our history; apathy and indifference, others. Although not always enforced, the presence on the statute books of antitrust laws has without doubt acted at times as a deterrent to the formation of monopoly, but antitrust laws, even when effectively enforced, leave the price problems of limited competition and the problems of over-all co-ordination unsolved.

The Temporary National Economic Committee

Some such conviction as this was responsible for the setting up by the Congress in 1938 of the Temporary National Economic Committee, whose duty it was[5]

"To make a full and complete study and investigation with respect to the

[5] *Hearings* before the Temporary National Economic Committee, 75th Cong., 3d Sess., Pt. I, p. 192.

matters referred to in the President's message of April 29, 1938, on monopoly and the concentration of economic power in and financial control over production and distribution of goods and services and to hear and receive evidence thereon, with a view to determining, but without limitation, (1) the causes of such concentration and control and their effect upon competition; (2) the effect of the existing price system and the price policies of industry upon the general level of trade, upon employment, upon long-term profits, and upon consumption; and (3) the effect of existing tax, patent, and other Government policies upon competition, price levels, unemployment, profits, and consumption."

The resolution, except for its reference to the President's message, does not contain the word "monopoly"; it deals with the concentration of economic power and with financial control, which are widely different things. It is concerned with competition, indeed, but not as an article of religious faith. Instead it proposes to investigate the effect of the price policies of industry, and the tax, patent, and other policies of government, not only on competition but on price and trade levels, employment, profits, and consumption.

Not in the decades since the Sherman Act was passed has there been so comprehensive and illuminating a study of the working of our economy as is to be found in the *Hearings* of the TNEC and in the series of monographs which the committee has published. They have made accessible copious information on concentration of wealth, price-fixing, control by insurance companies, patent monopolies, and big-business restraints. Among the final recommendations of the committee were the tightening of antitrust legislation, the repeal of the Miller-Tydings Act, the supervision of insurance companies, and the curbing of patent monopolies.

Our survey of the policy of the government toward industrial trusts may well conclude with the questions raised by A. A. Berle, Jr., in a memorandum prepared at the request of this committee.

"The investigation of business organization and practices (frequently called investigation of monopolies) should be essentially a search *to find an organization of business that actually works.*

"Economic organization may be roughly tested by the following:

"(*a*) Does it provide an adequate supply of goods as tested by the normal market? As tested by the apparent need?

"(*b*) Does it provide a maximum number of people with an opportunity to make a living under this process . . .?

"(*c*) Does it accomplish this process with due regard for the liberty and self-development of the individual?"

CHAPTER THIRTY-NINE

Agriculture and the Government

Farming as a Business

As we have seen in the three preceding chapters, the economic difficulties created by industries of large scale which tend toward concentration of control or monopolistic practices, and the relation of the government to such industries, constitute a major area for economic study. We now turn to a second set of problems, markedly different. These are the difficulties that cluster around that industry which throughout this volume has been used as an example of unlimited competition, namely, agriculture. Here the usual type of business organization is that of the single entrepreneur, whose farm may contain but eighty or one hundred and sixty acres, who employs perhaps one hired man, and who does much of the manual labor and all of the planning and risk-bearing himself. It needs but a cursory survey of our agricultural history to realize that simple business organization, small-scale production, and wide competition, such as we find here, are not sufficient to insure the smooth functioning of economic life. The difficulties which beset farming are clearly different in character from those we have been considering, but they are no less troublesome. In general the problems of large-scale production and monopoly which have evoked government action have related to the maintenance of fair competition among producers and to the protection of consumers. The heart of the difficulty was the price-fixing power of the industries considered. In agriculture the efforts of the government have for the most part been directed to establishing and maintaining the prosperity of the producer. The very nature of the industry in large measure explains this difference. Farming is a business, a means of creating income for the individual, just as producing electric power and running a railroad are ways of creating income for individuals. A competitive industry, it has problems of its own; but it is also peculiarly sensitive to outside influences. Moreover, farming is also a way of life, and the business and the life are closely intertwined. Any attempt to aid, guide, or control the business of farming has immediate effect on the living of the farmer and of his family. Rural electrification will increase the technical efficiency of the farmer; it will also lighten the work of the farmer's wife and make their home a more pleasant place. Removal of a group of farmers from

submarginal to better soil will increase the size of their crops; it will at the same time raise the scale of living of their families.

It follows from this close union of life and work that we shall find ourselves in dealing with agriculture considering a wider range of problems than those we examined in the earlier chapters of this section. Part of them arise within the industry; part originate outside it. Along with questions of supply and demand, of prices and costs and credit and controls, we must include questions of per capita income and consumption, of poverty, of land tenure, and of soil exhaustion, for all these together are a part of the central problem of what the government can do and must do to assure to the body of farmers a share in the national income adequate both to maintain our farms as businesses and to protect the human values of life on the farms. This objective, which on first sight appears to forward the interests of a single class in the community and therefore to be a questionable concern of national policy, is defended on the ground that the whole of society cannot long prosper unless agriculture is prosperous.

It is customary to think of early agriculture in this country as carried on in self-sufficient or nearly self-sufficient units—the food, the clothing, and the simplest implements being produced on the farm. Problems of marketing were unimportant and the farm family spent little cash, obtaining from village stores by an exchange of country products those commodities which must be purchased. Despite the modicum of truth in this picture for some parts of America, farming in this country was, almost from our first settlement, in considerable part commercial farming for a market. The Southern plantation is frequently compared to the medieval manor, but at one point such a comparison breaks down completely. Self-sufficiency, even the limited self-sufficiency of the manor, was not a characteristic of the plantation. Tobacco, rice, indigo, cotton, sugar—the plantation crops—were from the first produced for sale. Likewise, the Western pioneer, though he found access to a market difficult, expected to sell some portion of his crops—indeed, was obliged to find sale for them if he was to pay for the land which he had purchased from the government. Thus two great agricultural regions, the South and the West, depended on a market. Subsistence farming, though it was to be found in New England and in areas remote from population, is to be regarded as exceptional and temporary rather than as the prevailing characteristic of early American agriculture.

Farming for a market brings with it the economic problems inherent in a system of specialization and exchange: problems of cost and price relationships, of debts and price changes. The first necessity of the farmer, land, was in this country usually acquired by purchase, not leased as in England. The

first investments were therefore in land. These, though small, were, after the grants of the colonial period, seldom completely nonexistent. A second investment was incumbent upon those farmers who used slave labor. Most planters were heavily in debt for their slaves. As soon as technical progress made of agriculture a machine industry, the need for machinery called for large expenditures of money and enhanced the importance of market crops. The first point to be noted is that farmers with investments in land or slaves or machinery and producing for sale are businessmen, subject to vicissitudes of cost and prices similar to those which harass other businessmen. Not only must their crops provide subsistence, they must meet interest payments. Their money income depends on the relation between their costs and their receipts; their real incomes are determined by all the factors which determine the price structure. Most of the economic problems of agriculture ultimately can be resolved into questions of price relationships in a shifting price structure. It is true that as monopolistic practices exert increasing influence in this price structure the difficulties of a competitive industry such as farming are augmented, but it would be a mistake to regard them as caused solely by such practices. A world of completely unlimited competition would still present troublesome price problems to farmers as well as to other businessmen.

Early Agricultural Difficulties

Agricultural distress was by no means unknown before the Civil War; since then it has been well-nigh continuous and frequently has become so acute that the government has been called upon to alleviate it. From 1865 to 1897 farmers attributed their troubles, in part at least, to a declining price level. As producers they suffered from it because the prices of their products fell faster than their fixed costs and the prices of their current purchases. As debtors they were pinched by the obligation to repay a greater purchasing power than they had borrowed. In the first decade after the Civil War they thought to find a remedy in the retention and perhaps the expansion of the greenback issues of the war period; later, in the free coinage of silver. Both these policies they believed would provide a stable or, better still, a rising price level. During these years the one cost to which they gave particular attention was that of transportation. Through the granger laws of half a dozen states the pressure of organized farm groups established a measure of control over what they considered were exorbitant railroad rates. The Greenback party, the Granger movement, the Farmer's Alliance, the Populist party, all expressed the dissatisfaction of the farmers with their share of the national income and their belief that some panacea could be found which would redistribute it.

For the most part their analysis of the evils was far too simple, and their suggested cure-alls were wholly inadequate.

Agriculture since 1918

The difficulties and the attempted remedies of the period between the Civil War and the outbreak of the first World War we need not examine further; but if we are to understand the recent agricultural policy of the Federal government, we must follow in more detail the vicissitudes of farming and of farmers since 1918. The demand of the first World War for food products and fibers brought a short-lived prosperity to American farmers which speedily yielded to severe agricultural depression. To the end of 1940 this had not been permanently and securely relieved. In this period the difficulties encountered by wheat-growers may be used to illustrate general farm conditions. Since wheat is grown in forty of our forty-eight states and has for long been one of our great export crops, it is obvious that the ups and downs of wheat farming will be closely paralleled by the ups and downs of general farming. The demand for grain during the war was large, and farmers, responding both to impulses of patriotism and to desire for enlarged profits, increased their grain-raising acreage to the utmost. The conclusion of hostilities sharply reduced the need for wheat. Under the best of circumstances the restoration of foreign markets essential to our agricultural prosperity would have been slow. Our tariff policy not only failed to help but it actively hindered the readjustments necessary. Instead of facing the fact that as a creditor nation we must modify our traditional attitude if we wished to retain our foreign trade, the Congress, oblivious to the farmers' need for outlets abroad, allowed a high tariff to contribute to the decline in exports. At the same time, the growing nationalism of European countries, described in Chapter Twenty-three, further restricted our markets. Many elements in the domestic economy also contributed to the fall in demand. Machines eat oil and gas, not grain, and the widespread substitution of motor for animal power lessened the use of all grains which provide animal food. Changes in the diet of the people of the country further reduced the consumption of grain. As we increased the variety of our foods, adding many fruits and vegetables, the per capita consumption of bread and of cereals in all other forms decreased. Moreover, the rate of population increase was slackened, and fewer people eat less.

Though wheat acreage was somewhat cut, the supply of wheat did not decrease at equal rate with the changing demand. Farming is an easier industry to enter than to leave. Moreover, man's productive power, once increased, does not speedily contract. Many influences had contributed to increase the

supply of grain. For example, agricultural science had developed better methods of testing and treating seeds. It had discovered varieties of wheat which required short growing seasons and sturdily resisted disease. Crops were more certain than formerly. Mechanization was advancing rapidly, and mechanization meant greater production. There was no undoing of these achievements. In addition, wheat acreage in other parts of the world had increased. Canada and Argentina between 1914 and the end of the twenties had doubled their output. The result of all these influences was an increasing supply coincident with a diminishing demand. A severe drop in price was inevitable. As prices fell it became evident that the demand was comparatively inelastic and that the surplus amounts could not be removed from the market even by prices so low as to be disastrous to the producers. The individual's need for food reaches satiety sooner than most other human needs. It is as true today as it was in Adam Smith's day that the consumption of food is limited by the size of the human stomach.

Influences similar to those affecting the price of wheat were at work on other farm prices. Before the war we had exported something like half our cotton and tobacco crops. The drop in the foreign market for these crops called for a drastic reduction in supply or a fall in price so severe as to inflict great damage to producers. Yet between 1910 and 1930 the increase in agricultural production per worker was about 41 per cent. It was clear that in this country under existing conditions we need not concern ourselves with methods of expanding production, but rather the reverse of this. Our immediate problem was to dispose of surpluses in such a way that they would not send prices lower and further depress the rural scale of living.

At this point the student will do well to call to mind the fact that we are dealing with an industry of innumerable producers, the contribution of each of whom is so small as to have no appreciable effect on the total supply. We have seen that to any one farmer the demand for his product at the market price is infinitely elastic. If he reduces his crop he reduces his own income without affecting existing prices. The only significant reduction of supply must be mass reduction in which thousands of farmers co-operate. It must be remembered also that should a farmer withdraw from the market altogether, ceasing to operate his farm, certain of his expenses, such as taxes and interest on bank loans and mortgages, would continue unabated. Expenses of this character many farmers had increased during the war. Some had bought land at prices estimated on the basis of the bloated war prices of farm products; others had acquired machinery to be paid for at some future time. Mortgages on land and machinery were common; bank borrowing was well-nigh universal, and often rested on the rash assumption that the prices prevailing at the time

of the loan would continue indefinitely. Thus the fall in the prices of farm products, illustrated by that of wheat, gave to the farmers smaller money incomes at a time when their fixed costs, built on overoptimistic future expectations, had been increased. Further, as these prices declined, those of goods purchased for family consumption and for farm operation fell much more slowly. Farm machinery, for example, is manufactured under conditions of limited competition and resulting price control such as are described in Chapter Sixteen. During this period it underwent a curtailment of supply instead of the marked fall in price characteristic of farm products. The decrease in the farmer's money income, large as it was, was less than the decrease in his purchasing power brought about by all these influences.

Table XLIII · Purchasing Power of Available Farm Income[1]

(1910–1914 = 100)

1919	126	1923	90	1927	94	1931	60
1920	80	1924	96	1928	91	1932	52
1921	65	1925	97	1929	92	1933	77
1922	81	1926	90	1930	72	1934	80

The figures of Table XLIII show the rapid loss of purchasing power after 1919 and the relative disadvantage of agriculture throughout the twenties. In the face of falling land values, mortgage debts and taxes increased. Rural scales of living improved during those years, but probably less than those of most industrial groups in the United States. Before the debacle of 1929 there was widespread agreement that the farmer was on a "lower level of prosperity" than most other economic groups. The ratio of farm to nonfarm income available for living tells part of the story.

Table XLIV · Ratio of Farm to Nonfarm Income for Living[2]

(1910–1914 = 100)

1919	159.3	1929	81.4	1935	70.4
1920	98.2	1930	66.9	1936	73.7
1921	60.5	1931	46.5	1937	75.2
1923	82.2	1932	34.2	1938	66.7
1925	89.2	1933	52.1	1939	63.8
1927	83.2	1934	59.8		

As prices moved down after the crash of 1929 agricultural prices led in the

[1]*Agriculture's Share in the National Income*, Agricultural Adjustment Administration, United States Department of Agriculture, October, 1935, p. 11.

[2]Donald C. Blaisdell, *Government and Agriculture* (Farrar and Rinehart, Inc.), p. 5, from Bureau of Agricultural Economics, United States Department of Agriculture, December 18, 1939. The figures from 1932 on do not include benefit payments.

descent. New maladjustments in the price structure increased the disadvantageous position of the farmer. The income from agriculture dropped from an annual average of twelve billion dollars between 1925 and 1929 to five billion in 1932. The decline in taxes and in other fixed costs and operating expenses was proportionately much less than this. Foreclosures and loss of the farms, which were both the means of livelihood and the homes of the dispossessed families, in some places resulted in the suspension of orderly legal procedure and even in actual violence. In March, 1933, agriculture seemed to have reached an all-time low. Farmers were discouraged and desperate.

Measures for Agricultural Relief

It must not be thought that the hardships of this group had been endured with no attempts at remedy during these after-war years. A vast variety of cures of differing degrees of futility had been proposed; some of them had been tried. Within Senate and House so-called "farm blocs" were formed not long after 1919, containing members of both parties pledged to work for legislative aid for their agricultural constituents. An imposing list of measures, passed in the early twenties, resulted from the work of these blocs. In general the acts of this period can be divided into those concerned with farm credit and those concerned with marketing processes. The former will be discussed with other credit measures at a later point in this chapter; the latter need only brief mention. They include acts to prevent gambling in grain futures, to place the packing industry under the Department of Agriculture, and to increase the facilities for co-operative marketing. While certain of these laws corrected specific abuses, no one of them was calculated to reach and remedy fundamental difficulties.

In 1927 and 1928 the Congress passed and the President vetoed two McNary-Haugen bills, the kernel of each of which was some form of subsidy which should remove crop surpluses from the market without allowing them to drive prices down. The next year, 1929, President Hoover accepted the Agricultural Marketing Act, a measure likewise intended to dispose of a persistent crop excess. It established the Federal Farm Board, provided with five hundred million dollars and charged to see that the surpluses were taken off the market. Under its supervision two sets of agencies operated: farmer co-operatives, many of which already existed, and commodity stabilization corporations, the most important of which were the National Grain Corporation, the National Wool Marketing Corporation, and the National Livestock Marketing Association. By means of government loans these organizations were to buy crop surpluses and withhold them from market. The chief weak-

ness of the plan lay in the fact that in all its elaborate machinery, which here we may ignore, there was no provision for crop reduction. Though the board in 1930 made a vain effort to induce farmers to cut down their acreage, surpluses and carry-overs increased, and the losses of the board mounted while it piled up grain and cotton with no prospect of disposing of its stocks. We have already seen that between the passage of this act and 1933 the agricultural situation grew worse, not better.

The Agricultural Adjustment Administration

The first attempt of the new administration of 1933 to relieve the farmers' difficulties was the passage in March of the Agricultural Adjustment Act, described by some of its opponents as the most revolutionary of the New Deal measures. This act consisted of three more or less unrelated parts. We are interested here only in those sections which related directly to agricultural reform. By this time it had become all too clear that the excess of certain crops which was depressing prices and providing a large carry-over each year was not a temporary difficulty which by normal competitive processes would presently right itself. Within the industry no controls were at work which promised to limit production and restore prices within a generation, or to accomplish this, even in a much longer period, without infinite disruption of rural life. The costly failure of the Federal Farm Board had established the fact that no scheme of marketing or price maintenance could be successful which did not in some way restrict supply. The reason for the passage of the act was stated by the Secretary of Agriculture to be "the wide disparity between the prices of the things the farmer sells and the things he buys, and the resulting damage that disparity had done to farmer buying power and thereby to our whole economic system."[3] The immediate purpose was the restoration of prices by reducing production. To attack the problem from the production end was a departure from orthodox methods.

Within the Department of Agriculture the Agricultural Adjustment Administration, known as the AAA, at once was organized to carry out the law. Since reduction could not be accomplished through the unaided action of the producers (as would have come about in industries of limited competition) the government undertook it, but the method chosen called for voluntary cooperation on the part of the farmers through local units. The plan was described as that of voluntary allotment. The crops brought under control in the first two years were cotton, tobacco, wheat, corn, and hogs. Under the law the control could be, and later was, applied not only to these but to sugar, rice,

[3] *New York Times*, June 4, 1933.

peanuts, and some other products. In brief, the act provided that by contract between the Department of Agriculture and the individual farmers a certain proportion of acres was withdrawn from cultivation of the listed crops. In return for the farmers' consent to reduce their production of these crops a benefit payment was made to all contracting farmers. Taxes levied on those who processed the raw materials provided the funds for the payments. While the methods used to induce farmers to cut down their acreage were not identical for all crops, a common purpose underlay each crop program.

The act had been in operation less than three years when on January 6, 1936, the Supreme Court, in the "Hoosac Mills Case," declared the processing taxes levied under it unconstitutional, thereby invalidating the crop-control program. The Court, by a vote of 6 to 3, held not only that the tax was invalid but also that the system of benefit payments incorporated in the act was "coercion by economic pressure," since farmers could not afford to refuse these payments. The plan therefore amounted to Federal regulation, the power of choice being illusory. These two points constituted the basis for the majority opinion which ended the operation of the first legislation imposing crop control. A clear inference to be drawn from the decision was that additional acts which had been passed to regulate the production of cotton, tobacco, and potatoes also were unconstitutional, and early in February these measures were repealed by the Congress.

Crop Control and Conservation of the Soil

After the decision of the Court the administration sought a means of accomplishing the ends of the Agricultural Adjustment Act which would eliminate its unconstitutional features. The results of the search were embodied in the Soil Conservation and Domestic Allotment Act of 1936, which was drawn up in the form of a series of amendments to the Soil Conservation Act of 1935 and was signed by the President on March 1, 1936. This measure need not be examined in detail, as the same general aims, with some modification of method, were incorporated in the Agricultural Adjustment Act of 1938, which continued to be the basic law throughout the war. In both these statutes the constitutional objections were avoided by (1) placing the emphasis on soil conservation, an accepted function of the Federal government; (2) encouraging state action; (3) eliminating contracts with individual farmers; (4) omitting the objectionable tax.

The act of 1938 embodied the idea of the "ever-normal granary," to be applied to corn, wheat, cotton, rice, and tobacco. This concept, which from the beginning has underlain the policy of the Secretary of Agriculture, makes

the goal of policy reasonable regularity year by year in the marketing and, so far as weather variations permit, in the production, of the great staples. It involves the storage of part of the excess crops of uncommonly good years and a large measure of central control over the action of individual producers in the determination of crop acreage. The act is interesting not only as the development of an important economic experiment but as an essay in securing by democratic methods the co-operation of millions of independent producers for ends conceived to be advantageous both to them and to the whole community.

An outline of its chief provisions with respect to corn will illustrate the general working of the scheme up to our entrance into the second World War. Not later than February 1 of each year the Secretary of Agriculture determined the total acreage to be allotted to corn in the commercial corn-producing area (all counties whose corn production averaged at least four hundred and fifty bushels per farm). The allotted acreage must be sufficient to produce, on the basis of the average production per acre over the preceding ten years, a supply equal to the "reserve supply level" (a normal year's domestic consumption and exports, plus 10 per cent). The total acreage then must be apportioned by the Secretary among the counties on the basis of the previous ten-year records, with adjustment for acreage trends and soil-conservation practices. The county allotment, in turn, was apportioned among the individual farms by local committees consisting in each district of three farmers participating in the soil-conserving program. This apportionment must be based on tillable acreage, crop-rotation practices, type of soil, and topography. If a farmer desired, he might exceed his allotment, but he lost certain possible advantages thereby. He was, of course, not required to grow his full allotment.

By August 15 the Secretary of Agriculture was to determine, on the basis of crop estimates, whether the total supply of corn on October 1 would exceed "normal supply" (a normal year's consumption and export, plus 7 per cent) by more than 10 per cent. If it promised to do so, he announced the number of acres that would be necessary to produce the normal supply. If this was 70 per cent of the total allotted acreage, 70 per cent then became the marketing percentage of the coming crop. The farmers who would be affected conducted at once a referendum to decide whether marketing quotas were to be imposed. An affirmative vote of two thirds brought quotas into effect under which the individual grower sold his quota and placed under seal a defined storage amount, determined by an elaborate system here omitted. The farmer who marketed more than the amount assigned was subject to a penalty of 15 cents a bushel on the excess.

On stored corn, during a year when crops were in excess of normal or when the price of corn was below 75 per cent of parity price, a co-operating farmer,

one who had not exceeded his acreage allotment, might borrow from the Commodity Credit Corporation, under certain conditions, up to 75 per cent of the parity price, under others only up to 52 per cent.[4] A non-co-operator, one who had exceeded his acreage allotment, also might borrow on stored corn, but only up to 60 per cent of the loans above named and only during years when quotas were in effect.

It was assumed that a more intelligent determination of the advantageous amount of production was likely to be made by the decision of a disinterested central authority with all the facts in hand than by the independent action of millions of small competitive growers. For that reason the law placed the determination of total acreage with the Secretary of Agriculture. This acreage was then ingeniously apportioned among individual farmers by agencies for which they themselves were largely responsible. From that point on, in years of normal or poor crops farmers proceeded essentially as in the past; in any year of overflowing crops they subjected themselves to marketing quotas only if two thirds of them so desired. An excess supply thus held off the market during the crop year in order to prevent a disastrous price fall might come on the market in a year of shortage, thus preventing an equally disastrous price rise. The scheme obviously presented plenty of difficulties of administration and many opportunities for serious mistakes, but it scarcely can be said to involve undue regimentation of the farmers. In truth, farmers constitute unusually intractable material for any such process. Rather it constituted an intelligent and interesting attempt to bring about, by democratic means and in the general interest, a reasonable measure of co-operation among producers in an industry necessarily ultra-individualistic in its organization.

With important modifications of detail, the same principles that underlay the corn program applied to the other staples embraced within the act. In addition to the foregoing provisions, the act authorized the Secretary of Agriculture, if the Congress in any year made appropriations for the purpose, to pay to the producers of these commodities such amounts as might be necessary to bring sales receipts from their normal production as nearly up to parity prices as the appropriations allowed. This provision for a direct subsidy is no necessary part of the scheme of production and marketing control outlined above. It called for positive action of the Congress in making appropriations and presumably was of the nature of emergency action in special situations. The other provisions were designed as the normal program. The measure was declared constitutional in a tobacco-marketing quota case in April, 1939.

[4]The parity price of a bushel of corn is that price which will buy the same quantity of industrial products that a bushel of corn bought during the period 1909–1914.

Before following the course of agricultural policy through the war we turn to other efforts to increase farm income which belong to prewar years.

Table XLV · Cash Income per Farm, 1929–1944[5]

	CASH INCOME PER FARM			INCOME PARITY RATIO			
1929	$1796	1937	$1427	1929	93	1937	107
1930	1434	1938	1292	1930	81	1938	96
1931	997	1939	1398	1931	68	1939	95
1932	726	1940	1494	1932	61	1940	90
1933	810	1941	1964	1933	81	1941	108
1934	1001	1942	2742	1934	83	1942	135
1935	1124	1943	3406	1935	107	1943	144
1936	1303	1944	3744	1936	99	1944	145

Rural Credit

In describing the farmers' difficulties we stated that as the prices of their products declined their costs failed to decline at equal rate. Of all their cost problems the long-standing and knotty question of credit frequently has seemed to them the all-important obstacle to success. The city businessman goes to the bank for a short-term loan to finance a commercial transaction; the transaction completed in thirty or sixty days, he repays the loan. With the establishment of the Federal Reserve System his paper could be rediscounted at a Federal reserve bank and he was assured of all the credit for which he had legitimate need. No such easy access to funds was at that time open to the farmer. With some exceptions his paper was not eligible for rediscount; the length of time for which the commercial bank discounted his notes corresponded to no farm transaction. Goods on merchants' shelves may be sold and paid for in thirty or sixty days, but farm crops do not pass from seedtime to harvest in so brief a period. Long-time borrowing by means of a mortgage on land or machinery was the usual method by which the farmer obtained needed funds. The picture of the hardfisted and hardhearted small-town moneylender who acquired from honest but unfortunate farmers mortgages on the farms of his community, and later foreclosed, is one well known to fiction and not unknown in fact. It would be inaccurate to maintain that the Federal Reserve System did nothing to provide agricultural credit, but its accomplishments were not of great significance. The first important step was taken with the passage of the Federal Farm Loan Act of 1916. By this measure a double system of rural credit institutions, operated under the supervision of a Federal Farm Loan Board, was created: the Federal Land Banks, twelve in number, with an administrative system resembling that of the Federal Reserve System; and Joint-Stock Land Banks operated for private profit (these have since been

[5] *Agricultural Statistics*, 1944, pp. 424, 427; 1945, pp. 438, 441.

liquidated). The twelve banks of the former group made loans not directly to the borrowing farmers but to associations of at least ten farmers. All applications for loans came to one of these associations, which, if it approved, passed it on to the bank of its district. The purpose of this indirect procedure was to foster local co-operative groups which should in a measure supervise the borrowing of their communities. The loans were long-time loans with thirty years to run and were secured by mortgages on the farms of the borrowers. It will be seen that even with the passage of this act farmers were not provided with such short-term credit as was available to the urban businessman or with credit based on security other than land. Seven years later, after the recession of 1920–1921, provision was made for twelve Intermediate Credit Banks, to be owned by the Federal government and to be under the supervision of the Federal Farm Loan Board. These banks, like the Land Banks, made no loans directly to farmers but lent to co-operating local groups, in this instance, co-operating marketing associations. The loans could run from six months to three years. Two additional sources of credit open to farmers should also be mentioned: crop-production and seed loans under the Department of Agriculture, and credit offered by firms selling farm machinery, fertilizer, or other necessary articles and by commission men and cattle-loan companies. Many of these firms by accepting the notes of their customers acted for them as important substitutes for banks.

Before the end of the twenties it was evident that easy borrowing was a questionable remedy for agricultural difficulties. The fact that "you can't borrow yourself out of debt" became obvious to many farmers. Something like 40 per cent of the farm land of the country was covered by mortgages on which it was increasingly difficult to pay interest. The crash of 1929 brought to a head difficulties which had long been threatening the Land Banks and the Joint-Stock Banks, as well as many rural banks throughout the country. Extensions of credit became well-nigh impossible. Foreclosures deprived the farmers of homes and means of livelihood without relieving the banks, which had no way of turning farm land into liquid assets. In 1932, under the Reconstruction Finance Corporation, regional agricultural co-operatives were organized through which money could be advanced to the farmers, to help in the immediate situation, but the mortgage foreclosures continued and in some states brought forth violent resistance. Crowds of farmers appeared at foreclosure sales of farms and chattels, intimidating potential buyers by their presence or by actual threats and sometimes forcing the postponement of the sale. At others they themselves bid in the property at such absurd prices as 25 cents for a cow, 10 cents for a horse, and 5 cents for a piece of machinery. The property was restored to its owners and the proceeds

of the sale delivered to the frustrated mortgage-holder. In Nebraska some six thousand farmers organized themselves into Committees of Action to protect the land of farmers threatened by mortgage foreclosure. If bankers refused to renew mortgages, these groups bought in the land for the owner, and the banker might find himself with a check for $7 or $8 in place of his mortgage, or even with a bill of costs.

It was clear that the first step in restoring orderly processes in many farming areas was to re-establish a workable credit system. This was made possible by the Farm Credit Act of 1933, under which the Farm Credit Administration was organized. Under its aegis a fund was established for urgent needs and all the rural credit agencies of the government were brought together. These included the Federal Land Banks, the Intermediate Credit Banks, the regional agricultural-credit corporations, and the crops production and seed-loan associations. In addition to all these, twelve Banks for Co-operatives with a central bank were created and placed under the new authority. With the exception of the Intermediate Credit Banks these were all co-operative institutions. The administration had two major tasks: to provide with great haste for emergency loans and to organize a permanent agricultural credit system out of this miscellaneous collection of credit institutions.

Only a few of the measures taken to accomplish the second task can be touched upon here; the emergency measures must be passed by with the single comment that in 1932, 50 per cent of the loans of the Land Banks were in danger of default; by 1937, 85 per cent of them were in good standing.

As the result of the work since 1933 there now exist in each of the twelve farm credit districts a Land Bank, an Intermediate Credit Bank, a Co-operative Bank, and a Production Credit Corporation. Gradually the work of these various organizations was co-ordinated as emergency action became of less importance and attention could be focused upon permanent needs.

Experience since the first World War suggests that in granting credit to farmers the government has paid too much attention to the value of the collateral property which the farmer offered as security for the loan and too little to the income possibilities and vicissitudes of the farmer. Easier credit is not the need of most farmers, but flexible credit based on some plan whereby in years of small income interest payments can be reduced or postponed. Also, it has undoubtedly been true in the past that borrowed funds have not always been used for productive purposes and have often been obtained at a cost not justified by productive possibilities. At present adequate facilities for agricultural credit of all kinds are available to farmers. The postwar problem is the wise use of credit.

Measures for Soil Conservation

Limitation of crops and the creation of credit facilities have as immediate objectives the easing of the business difficulties of the farmers and the increase of their share of the national income. Measures for the preservation of the soil look to the future and are primarily concerned with maintaining or enlarging the national income in coming years.

The statement was made on page 745 that the Soil Conservation and Domestic Allotment Act of 1936 was passed as part of a soil-conservation program, with no explanation as to what that program was or when and why it was inaugurated. To appreciate the necessity for immediate and thoroughgoing action to preserve our land, the student need only re-read that portion of Chapter Four which discusses the damage which has been wrought and is still being wrought by wind and water. Our soil is our most precious possession, one on which our future well-being is absolutely dependent; yet we have been strangely apathetic over its abuse. Nowhere is the conflict between immediate individual interest and long-time social interest sharper than over the use of natural resources, and our past treatment of our abundant and fertile topsoil offers a striking illustration of this conflict. To make a living, men will, and often must, despoil the forest and deplete the land with small regard for the future. Long-range views and soil-conserving practices are possible only when there can be some measure of group planning. Agricultural experts have long recognized the folly of misusing our soil, but their warnings were largely ignored until drought and dust storms brought sufficient tragedy to attract general attention. In 1934, it is said that one windstorm carried three hundred million tons of soil from the Middle West to the Atlantic Ocean. To most of us the "dust bowl" became a reality rather than a vague name in that year. The Congress in 1935 established the Soil Conservation Service, the duty of which was to educate the country on the evils of erosion and to develop and demonstrate measures of control.

Under this service, with the co-operation of other agencies, demonstration areas have been set up, shelter belts have been planted, storage reservoirs for flood control have been increased, some wheatland has been transferred to other crops, and some land has been removed from cultivation altogether, to be restored to pasture or forest. Farmers have been instructed in strip cropping, and in contour and terrace farming, methods well known in other countries but little practiced in the United States. Agricultural Conservation Associations have been established in many counties of the Southwest, through which farmers work out co-operative plans for soil-conserving farming. The benefit payments for the use of soil-conserving crops have already been men-

tioned. The objective of the entire program is simple: "to pass the soil on to our descendants as nearly unimpaired as possible." Only thus can we assure to a future population the hope of an undiminished national income. At best progress will be slow. Much of the past damage can never be undone; future losses by wind and water can be checked only if the public, understanding the need, lends support to an intelligent soil-conservation policy.

Farm Tenancy

Any study of agricultural income or of soil conservation carries us inevitably to the farmer without land. We in this country are accustomed to think of the farmer as the man who owns the land on which he lives and works and to regard the tenant as the exception who need not be included in a discussion of farming. The nineteenth-century belief certainly was that tenancy was largely confined to the Negroes of the South, and that when it existed in the North the renter was either a young man on his way to ownership or a shiftless and thriftless farmer who failed to acquire a farm solely because of his own shortcomings. Yet farm tenancy is not new. Even as early as 1880 one quarter of the farms of the United States were operated by tenants. It is true that a majority of these were in the South, a legacy of the plantation system, with its slave labor, its one-crop agriculture, and its landless poor whites. The sharecroppers of today, those tenants whose land, whose farm equipment, and whose subsistence of salt pork and beans are provided by a landlord who receives in return a large part of the annual cotton crop, are largely a consequence of the breakup of that system, but sharecroppers constitute only about one fourth of the total number of our tenant farmers. Among them there are more whites than Negroes, and white tenancy is increasing while that of Negroes is declining. Share-crop farming cannot be regarded as in any sense a race problem. Moreover, tenancy has ceased to be a characteristic peculiar to Southern agriculture. The 42 per cent of tenants reported in 1935 are dispersed through forty-one states, and the increase in their number has been more rapid in Northern than in Southern areas. In Iowa, for example, 49 per cent of the farmers are tenants, and but 47 per cent of the farm land is operated by owners.

Certain reasons for the spread of tenancy are obvious. Mortgage foreclosures, referred to on previous pages, have thrown many one-time owners into the renting class, their farms passing to banks, mortgage and insurance companies, or other mortgage-holders. Also, modern farming calls for a much heavier investment than that of an earlier day, and it is more difficult for the ambitious young man after serving a novitiate as laborer or renter to acquire a small holding of his own. "Go West, young man," and acquire a farm, is no

longer practicable advice. It is probable that there is also another influence at work. The almost certain appreciation of land values in this country in the past has made of landownership an enticing speculation. Profits *might* be made from farming; profits almost certainly could be made by selling the land at some future time. Today the movement of land prices is highly uncertain. The high wartime prices will undoubtedly be followed by a period of decline which may continue for a generation. Renters with satisfactory rental contracts may be entirely willing to let the landlords bear the risk of land depreciation.

Tenancy as it exists today presents a variety of problems—some of them problems of farming methods, income production, and soil conservation; some, of human poverty. In this country tenant farming has been bad farming. With our customary short leases it is of little advantage to the tenant to make or to care for improvements or to plant soil-conserving crops. He sees his gain in taking from the soil all that he can and moving on, leaving a depleted land behind him. The remedies for the impoverishment of land and people which results from this are to do away with tenancy entirely, which is clearly impossible, or to improve the leasing contracts of those farmers who will remain tenants all their lives. Poverty of farm families and reduction of the productivity of farms are by no means inevitable accompaniments of a tenancy system, but they have been the accompaniments of the forms of lease predominant in this country. Improvements in tenant contracts can do much to improve tenant farming and to give both landlord and tenant greater returns. Something has already been done, much more can be done, to establish longer tenure and to ensure conditions which will foster better farming. Conferences of landlords and tenants with Farm Security Administration officials, college representatives, and members of farm organizations brought to light the evils of existing practices and arrived at remedies. Standard forms for written leases are growing in favor; five-year tenure, save under exceptional conditions, is finding wide acceptance.

Though it is true that we must recognize tenancy as a permanent part of our agricultural economy and accept the fact that for some farmers it is a more satisfactory status than that of owner, ownership is still the goal of the great body of renters and is encouraged by government policy. The agricultural credit policy already discussed provides long-time loans for substantial farmers prepared to buy farms and for those owners who are threatened with loss of land, but the government, in addition, has made some cautious efforts to transfer from the status of tenant to that of owner young men who are wholly without resources but who, once established, promise to be able to maintain themselves. Under the Bankhead-Jones Farm Tenant Act of 1937 the Farm Security Administration helped a limited number of tenants who could not

meet ordinary credit requirements. Our absorption in problems of national defense checked further expansion of the program.

Before we leave the subject of farm tenancy, one new development may be mentioned. With the depression, and its consequent mortgage foreclosures and bankruptcy sales, many farms passed into the hands of financial institutions, a comparatively new type of absentee landlord. The leases made by these owners were largely of the share-crop variety, and the abuses to which they are open are manifold; yet there is here a possibility for experiment in long-time leases and co-operative farming of which some advantage has been taken. For example, the Farm Security Administration purchased from a St. Louis bank a 6700-acre plantation and placed on it 100 sharecroppers, putting up houses for them and advancing money for farm machinery, furniture, and subsistence. In planting the land, cotton acreage was cut 60 per cent, and soy beans, pasture crops, and gardens varied the old one-crop system. The Metropolitan Life Insurance Company ventured on similar experiments with land which it acquired by mortgage foreclosure. Much may be learned from the unified management which here is possible.

Rural Poverty

Important as is the relation between the nature of farming methods in use and the nature of the farmers' tenure, the immediate and all-important problem of tenancy is the problem of human poverty. This, to be sure, is not always allied with tenancy: some tenants are prosperous; many owners are poverty-ridden. Indeed our entire discussion of the place of the government in our agricultural system might be regarded as a discussion of rural poverty, since the objective of most government measures has been to increase present or future farm income. By rural poverty, however, we mean the condition of those families with incomes below subsistence levels, even though that elastic term be given its lowest possible content. The relief work made necessary by the suffering of the thirties brought to light a vast amount of rural distress which was not the result of temporary conditions. Heretofore we had been prone to consider poverty a problem of city slums; in the thirties we were forced to recognize its widespread existence in country areas. Studies made by the Farm Security Administration in 1936 found groups of tenant cotton farmers with average yearly incomes of $134.[6] In that year 1,700,000 farm families had incomes of less than $500, including all the farm-grown produce which they consumed.

Once urgent suffering was relieved, the Farm Security Administration set

[6] *Farmers in a Changing World: Yearbook of Agriculture*, 1940, p. 889.

up plans for permanent improvement. Surveys showed some 100,000,000 acres of submarginal land actually in use as cropland. Some of this had been destroyed by erosion, some by decade after decade of one-crop farming, some had never been good farming land. On these farms 650,000 families were living in poverty which could never be mitigated by their own exertions so long as they worked such soil. Gradually the administration bought up portions of this acreage to restore it to grassland, to forest, or to any other use to which it was adapted. The families displaced by these purchases were placed on farms in more promising areas. A second aspect of the permanent relief program was the rehabilitation of farmers who did not need to be moved but who needed help to recover from the disasters of the depression or the droughts of 1930, 1934, and 1936, and the resulting dust storms. Sometimes all that was necessary was a small loan; sometimes the advice of an expert started the farmer on the way to larger earnings. Group aid was sometimes given, in order that an entire community might have the use of better equipment, improve its livestock, or organize marketing co-operatives. Another aspect of the work of the Farm Security Administration was the provision for group medical care. In fact, a most interesting chapter could be written on the work of this single agency of the Federal government, which not only advised the farmer but gave to the farmer's wife help in making the best use of food and in budgeting the scanty cash income.

Agriculture during the Second World War

This much of past history, past difficulties, and past remedies, and the basic law under which agriculture was operating in 1940 it is necessary to understand if wartime controversies and postwar problems are to be comprehended. The enormous increase in the need for foods, fats, and fibers is a commonplace which needs no elaboration. With a farm population which declined from 30.2 million in 1940 to 25.5 in 1944, the index for volume of crop production moved upward (1935–1939 = 100) to 125 in 1944; for livestock the figures were 126 in 1942, 139 in 1944. The annual food production of this war was 30 per cent greater than that of 1939, whereas in 1918 it was but 11 per cent larger than in 1914. It may come as a surprise to some students to learn that during the war years the civilian population was consuming more food than in the thirties. At the same time, army needs were met and lend-lease shipments to our allies were maintained. In contrast to the developments of the first World War, the land devoted to wheat and cotton was reduced by about 4 million acres between 1940 and 1943, while corn lands were increased and the acreage in soy beans leaped from 4 to 10 million.

The contribution of agriculture to the national income, which was but 3 billion dollars in 1932, by 1943 was 15.7 billion. Some conception of the improvement in the income of individual farmers may be gained by the inspection of Table XLV. From the low point of 1932 the cash income per farm had more than doubled by 1940. In 1943 it was 4.6 times as large as in 1932. Table XLVI shows the changes in the real income of the farmer by comparing prices paid with prices received during the five years which preceded the first World War, that war, the prosperous twenties, the depressed thirties, the years of recovery, and the second war.

Table XLVI · Ratio of Prices Received by Farmers to Prices Paid[7]

1910–1914	100	1936	92	1942	105
1915–1919	106	1937	93	1943	115
1920–1924	93	1938	79	1944	111
1925–1929	96	1939	79		
1930–1934	73	1940	82		
1935–1939	86	1941	95		

Production programs were planned in the thirties to reduce production, in the forties to increase it. In order to achieve the goals which were set, a system of "supported prices" was adopted which assured the farmers that once the crop was produced it would be sold at an adequate price. On basic crops loans equal to 90 per cent of the parity price were provided if the farmer wished to store them instead of selling at once. If, when he was ready to sell, the price was lower than the amount of the loan, he simply surrendered the stored crop to the government, thus assuring to himself a minimum price. There was also direct purchase by the government, the support price being the purchase price. These purchases were sometimes of processed articles, sometimes of the raw materials, the government then stipulating the price which was to be paid to the producer. Lastly, in order to increase production, subsidies were paid, sometimes directly to the farmers, sometimes to the processors, who then paid specified amounts to the producers. It will be remembered that the act of 1938 defined a parity price for any farm commodity as that price which will give to the commodity the same purchasing power, in terms of what the farmer buys, as it had in the base period, 1909–1914. If other prices rise, parity prices will rise, since they express relationships—not exact amounts. In calculating these prices, interest rates, freight rates, and taxes are to be reckoned in the farmers' outgo. To discover the parity price at any time, the price of the commodity in the base period is multiplied by the current index number for prices paid by the farmer. For example, the

[7] *Statistical Abstract of the United States*, 1944–1945, p. 654.

base price for cotton is 12.4 cents a pound. This, multiplied by 179, the index number early in 1946, gives the parity price as 22.2 cents.

When the price-control bill of 1942 was under consideration in the Congress, those members who are assumed to speak for the farming interests objected to any ceiling on farm prices, which were for the first time approaching parity. Only after long controversy was agreement secured. The act as finally passed provided that no maximum price was to be established or maintained on an agricultural commodity below the highest of the following: (1) 110 per cent of parity price; (2) the market price on October 1, 1941; (3) the market price on December 15, 1941; (4) the average price between July 1, 1919, and June 30, 1929. Not content with the gains already made in farm income, these same interests in the spring of 1946 attached to a bill raising the minimum hourly wage of industrial workers a rider providing that farm labor be included in calculating parity price. Had this passed, such prices would have been raised 33 per cent: the parity price of wheat would have gone from $1.58 to $2.10. For many commodities the Congress had already provided that price support was to continue for two years after the fighting ceased; therefore an increase in parity prices, brought about by the new method of calculating them, would increase the support price for this period. These two illustrations of attempts to safeguard the income of the farmer, even at the expense of other groups, bespeak a determination to avoid a repetition of the bitter experiences of the years which followed 1919.

Criticisms of the Farm Program

For the performance of the farmers during the war there can be nothing but high praise. Struggling with a scarcity of labor, of machinery, of fertilizer, they provided the basic necessities for war and for civilian life. For the course of those members of the Congress who have at times attempted to separate the interest of their constituents from that of the rest of the country, the only defense is their memory of earlier vicissitudes. Farmers are uneasy over their future. They fear that postwar years will find them with excess supplies and no markets. But it is doubtful whether the tactics of the Farm Bloc, though they may offer immediate advantages, can bring continuing benefits to agriculture. They have frequently been at variance with the plans of the Department of Agriculture, the Administration, and the Office of Price Administration, and cannot fairly be said to represent government policy. Indeed, it is scarcely fair to say that they represent the desires of the majority of the farmers themselves. On that point we have little evidence. In what follows we are considering the policies of the government as they were formu-

lated between 1933 and 1938, not such excrescences as the price provisions written into the price-control act of 1942.

Many and harsh were the criticisms directed against the agricultural policies of the Federal government in the thirties, chiefly against those of crop control. In part the objections betrayed ignorance of actual conditions and of the nature of the remedies; in part they pointed out defects in the formulation or administration of the program; in part they rested on fundamental differences in social philosophy. Criticisms of the faults of the program brought about needed corrections. The first crop-control measure, for example, aided the owners but did little for the tenant, though in the cotton industry the crop was largely raised by sharecroppers in desperate need of relief. Later legislation provided that the tenant share in the benefits which came to the owner. Obvious defects of this character were bound to be exposed and remedied with increasing experience. There is, however, a body of criticism which rests on fundamental disagreement with the entire philosophy underlying the Agricultural Adjustment Administration program. This takes two forms, though the roots of each are the same. It is charged that the philosophy of the AAA is the same as that which underlies the practice of the monopolist or the would-be monopolist. By restricting his output he raises the price of his goods and increases his share of the national income; at the same time he decreases its total, measured in goods. Now the farmers, aided by government action, are embarked on the same restrictive policy. They too are endeavoring to increase their own share of the national income by reducing the total of that income. No people, these critics affirm, can possibly grow more prosperous by creating more scarcity. Scarcity means poverty. The only way to increase the national income is by increasing our output. Greater efficiency and a more complete use of our facilities for production are the only roads to restored prosperity. This is true, and the most convinced supporter of the crop-control program would readily admit it. The remark of a recent commentator that the "plow-under school clashes with the efficiency school, sometimes under the same hat" implies a greater contradiction in the two points of view than actually exists. Insofar as crop restriction actually accomplishes soil conservation, both critic and advocate of the program are in accord. Conservation looks to greater future efficiency and enlarged future income. We need not argue its value. The advocate of the control, agreeing with the statement that prosperity cannot be reached by scarcity, points to considerations which the critics, he believes, overlook. First, differences between monopoly policy in the industrial world and AAA policy must not be ignored. The monopolist aims at maximum net return. He may not achieve this, for reasons set forth in Chapter Fourteen, but it is

his goal. The crop-restriction plan has as its goal parity prices for a group of commodities or, at times, parity income for agriculture.[8] Individual pressure groups have endeavored to force those prices to the level of maximum net returns, that is, to adjust them on the principle of monopoly price; but so far as government policy is in question, parity return to agriculture, not maximum return, is the end sought. Secondly, and closely allied to the first point, the amount of the output is adjusted not to yield the largest possible profit but to meet the needs of the country, including domestic uses, export possibilities, and a reasonable carry-over for lean years. The ever-normal granary is a concept not of scarcity but of stabilized plenty. Thirdly, the long-time plan intends no reduction of the total of agricultural products. Our history since the first World War, combined with the best judgment of the future that it is possible to make, suggests that we need to reduce some crops permanently. This means finding new uses for part of our land; it does not of itself impose a reduction of national income. To this it might be added that the attention given by the government to rural scales of living and general social conditions finds no counterpart in industrial monopoly policy.

The second expression of fundamental disagreement appears in the laments over the abandonment of individual initiative and free enterprise in agriculture, the last stronghold of the competitive system. This was given extreme form by the farmer who complained that all he asked was to be allowed to live and farm as his grandfather had. The obvious reply is that he does not live and farm in the same world in which his grandfather lived and farmed. Today, in a world of influences and controls before which the individual is helpless, the individualism of the nineteenth-century farmer is unthinkable, and even his individualism did not prevent him from frequent resort to the government for protection from adverse economic forces. Regimentation is not a necessary part of an agricultural program; community or group action is, but community action need not stifle the initiative of the individual. Free enterprise can still flourish in this section of our economic order, but only if conditions are such that farmers, while they provide society with essential commodities, can provide adequate living for themselves. The question raised is whether in our closely knit economic system one part of that system can retain a competitive character while subject to the limitations imposed on it by monopoly industries. Wartime prosperity temporarily obscured this question, but provided no permanent answer to it.

[8] "Parity as applied to income, shall be that per capita net income of individuals on farms from farming operations that bears to the per capita net income of individuals not on farms the same relation as prevailed during the period from August, 1909, to July, 1914" (Act of Feb. 16, 1938, Title III, Sec. 301 (2)).

There remains for consideration a more valuable group of criticisms and suggestions, illustrated by those which have resulted from the work of the Committee for Economic Development and have appeared in Professor T. W. Schultz's *Agriculture in an Unstable Economy.* Accepting the fact that perhaps for years to come agriculture must be under some form of government control, the author of this study makes certain definite proposals for stabilizing farm income and for more efficient production. While these in many ways involve an extension of the work of the thirties, they offer thought-provoking criticisms of that work and establish the need for a change of emphasis. The essence of the criticism is that government policy has treated prices as goals to be achieved instead of using them as means of allocating resources to the greatest public advantage. Proper use of price incentives would require in future that the Department of Agriculture do what it has done during the war—establish production goals. These production goals would be achieved by prices sufficient to bring out the desired amounts, announced before the farmers made their plans for the season's crops, and unchanged during the crop period. This is an important shift of emphasis: the policy of the thirties was directed toward achieving certain prices; the policy here suggested would be directed toward achieving certain supplies—and no more—by means of administered prices. In a way it may be said to bring the "ever-normal granary" from the background to the center of attention and to restore to prices their function of guiding production.

About the ultimate objectives of an agricultural policy there will be no great controversy. For the most part they look to larger national income not only for agriculture but for the entire population. Argument as to the best method of arriving at these ends will and should go on. The question of how much can be left to private initiative and how much aid and guidance must come from the government can never be permanently settled. Changing conditions continually shift the line between government and private responsibility. We have every reason to believe that our population will not continue to increase at its past or even its present rate. We have little reason to hope that our export market will undergo marked expansion in any future which we can now foresee. The advance of scientific treatment of the soil and of farm technology will go forward. Production per man and per acre will increase, not decrease. All this implies that the necessity for acreage reduction in some crops will be permanent. We must, then, learn to utilize our land in new ways, perhaps as yet undiscovered. Such transitions call for education, guidance, and a large measure of co-operative action. There is small reason to believe that unlimited competition offers the future solution for this industry.

CHAPTER FORTY

Public Finance

DURING our consideration of the functions of government, as set forth in Chapter Thirty-five, and the relation of the government to various classes and interests in the community there has been no attention to the money cost of carrying on these activities and the means by which these costs are to be met. Any examination of the part played by the government in economic life must lead us directly to the consideration of public finance in the accepted sense of the term, namely, the expenditure and collection of the public revenues. The performance of function necessarily involves expense. Government performs the function (among many others) of creating highways; a private university, that of providing facilities for education; a steel corporation, that of making and distributing steel; a motion-picture company, that of furnishing amusement. Each of these four agencies, in performing its function, inevitably incurs expense (expends revenue). Each must in some way cover that expense (collect revenue). The government does it by taxation, the university by receiving income from its endowment and fees from its students, the steel corporation by charging prices for its steel, the motion-picture company by charging admission to its theaters. If the last two agencies presumably collect more than they expend, while the first two do not, the situation is not thereby changed. None of them can perform its functions without incurring expense.

We have put the expenditure before the collection of government revenue, however, not alone for the reason thus suggested. There is an important distinction between public and private finance. A private family, knowing exactly or approximately what income it may expect to receive, keeps its expenditure within the limit thus imposed. On the other hand, a government determines first what its necessary or desirable functions are, then decides on the amount of funds required and the means for providing them. Since it possesses the power of taxation, supported if necessary by the use of force, it can spend whatever amount it deems wise, its ultimate limit of course being the entire national income. Further, its expenditures have at times tremendous effect on the size of the national income, and must be regarded as a means of bringing taxable income into existence.

Federal, State, and Local Expenditures[1]

Few persons realize the relative fiscal importance of state and local as compared with Federal government in this country, though local government touches them every day of their lives. In 1932 these government units spent nearly 9.6 billion dollars as compared with 5.7 billions of Federal expenditures. One fourth of state and local expenditures represented capital investment, in land, buildings, and other permanent facilities; one eleventh covered interest on debt; about 3 per cent went to the operation of public-service enterprises; and more than three fifths was spent on the operation and maintenance of the general government departments. In their general departments the states spent 16 per cent of their money on roads, 18 per cent on charities, and 40 per cent on schools, or three quarters of all their money for these three purposes. The corresponding proportions for the cities, with their far more diversified services to citizens, were 7, 12, and 34 per cent, together more than half their totals. If we put together not only our states, cities, and towns, but also our counties, school districts, and other local units, we find that they spent 44 per cent of their money on education alone. Our state and local governments possess only in minor degree the police character. Primarily they are today great social-service undertakings financed by taxation.

The long-standing relationship between Federal expenditures and those of smaller governmental units was completely changed by the exigencies of two decades. Spending for the relief of depression in the thirties and for war in the forties sent Federal outlays to astronomical figures, at the same time reducing certain local needs. The Federal government during the fiscal year 1944 disbursed over 93.7 billion dollars, approximately one half of the gross national product. Table XLVII gives the general distribution.

Table XLVII · Federal Expenditures, 1944
(in Thousands of Dollars)

I.	General expenditures	6,187,706
II.	War activities	87,038,672
III.	Revolving funds	1,031
IV.	Transfers to trust accounts	556,110
V.	Debt retirements	2
	Total	$93,783,521

[1]In our study of public finance we do not enter at all into the political question of the extent to which and the means by which individuals and groups of citizens control government and cause it to identify the public interest with their own particular interest. We deal with whatever balance of political power at any time exists and whatever conception of the public interest consequently prevails in govern-

The most startling feature of the table is the way in which expenditures for defense have dwarfed all other payments. Less than one fifteenth of the total was devoted to what we customarily think of as the costs of government. During this fiscal year 792 million dollars went to the support of the departments other than War and Navy, and 100 million to the whole flock of independent boards and commissions, such as the Interstate Commerce Commission, that have become indispensable to the carrying on of private business. The cost of lawmaking by the Congress absorbed 28 million; that of law enforcement by the Federal courts and the Department of Justice, 84 million. Among the departments the Treasury, in its functions of collecting the public revenues and administering the national finances, called for 285 million; the Department of Agriculture had 81 million, less by 40 million than in each of the two preceding years. The far-flung activities of the Departments of the Interior, Commerce, and Labor, reaching into every section of the United States, were accomplished with an expenditure of 179 million; the Post Office spent 6.8 million, all of which it collected in receipts for services.

Under revolving funds are included such items as the Farm Credit Administration, while transfers to trust accounts cover a miscellaneous group of obligations, a sample of which is the contribution of the Federal government to the retirement fund for government employees.

The nature of the war activities it is scarcely necessary to explain. Their magnitude the finite mind finds it difficult to grasp. In the prewar year 1937 the Federal government spent a total of between 8 and 9 billion dollars, of which less than 900 million was for defense; seven years later the total was ten times as much, the entire increase attributable in one way or another to the war. The costs of the war, from the middle of 1940, when the outlays for defense began, until the summer of 1945, were approximately 300 billion dollars. This sum takes no account of the costs of benefits to veterans, which will be a continuing charge.

Such figures reflect government activities only imperfectly, and of course they must be considered in connection with studies of the actual efficiency of government agencies. When the Tweed Ring, after the Civil War, by fraud ran up the expenditure of New York City by millions of dollars, that fraud did not mean improved or increased city services, any more than the activities of various promoters and investment bankers during the twenties, in loading

ment. Given that balance and that conception, the power of government to spend for purposes included in that conception is in fact limited only by the competing private purposes of the citizens, who must provide funds for public purposes by taxation or otherwise, and who may overturn the government or reverse its policies if such policies become too strongly antagonistic to those of the taxpayers.

the power industry with the costs and charges of essentially fraudulent or completely unnecessary holding companies, meant increased or improved services from the power industry.[2] Fraud is never productive, whether in public or in private economy. The standard of government service at certain periods in the past has been lamentably low, especially in our cities, and in consequence there has grown up a tradition that government service is dishonest and inefficient. In general there is small basis for such a judgment, particularly in connection with our Federal government, where we find many instances of expert and devoted service. The record of our states and cities is by no means as good. In this connection it is to be remembered that when political corruption is uncovered it is almost invariably united with dishonesty in private business as well. We can scarcely demand that our government officials rise above the standards of integrity of the constituency which elects them; yet it may be argued with a considerable measure of plausibility that we do, by and large, maintain higher public than private standards. For example, Albert B. Fall, the bribed Secretary of the Interior in the administration of President Harding, was convicted and driven out of public life in disgrace; the bribers, Doheny and Sinclair, retained their high places in the petroleum industry.

Not only is American government relatively honest; its efficiency also in making economical use of productive resources put at its disposal today probably compares not unfavorably with that of private industry, whatever may have been the situation in the past. The popular notion, sometimes sedulously cultivated by the interested or the uninformed, that American government, Federal, state, or local, today wastes a considerable part of the money placed at its disposal is simply not true. There is no intention here to deny the existence of occasional dishonesty and constant inefficiency in the public service. It is intended to assert that standards of efficiency in public business compare not unfavorably with those in private business. Clearly it is imperative to raise the standards of honesty and efficiency in public work just as rapidly as possible; for, despite all improvement, in too many cases they are still deplorably low. Students need to remember all this in considering the growth of public expenditures.

Government Revenues

Government revenues, made necessary as soon as there are government activities, are of only less moment than government expenditures. In the early

[2]It is not meant to suggest that all holding companies formed at that time were essentially fraudulent; though by any acceptable standard many of them were, and still more were unnecessary.

days of American history, when government functions were few, taxes were light—sometimes, indeed, almost negligible. Today, when the taxing authorities are collecting each year sums nearly twenty times as great as they were in 1929, the question where and how the government gets its income has become one of major importance.

Like private undertakings, governments may finance their business out of the sale of their products. Those cities here and abroad that provide their citizens with water, gas, electricity, and transportation ordinarily expect the users of the services to pay the full cost by direct payments for the services. Government railroads are generally expected to pay their own way. As governments take over more activities of this kind an increasing proportion of their revenues may well be derived from charges for such services. In their price policy, however, they have a degree of freedom not open to private undertakings. If the latter cannot cover expenses, they must in time go bankrupt; but a government is always at liberty, if it is deemed wise, to set prices below the cost of production, making up the deficit by taxation. For a city to "lose money" on its water plant is not necessarily a sign of unwisdom or of mismanagement, any more than for it to "lose money" on its schools. It gives away education to its citizens because that is considered good public policy; for the same reason it is at liberty to sell them water at less than cost. In either course the expenses not otherwise met must be covered by taxes.

The chief sources of public revenue, however, are taxes and loans. Taxes constitute its essential basis; loans are a temporary resource, or at any rate may be safely utilized only in a proper relation to taxes. During the two years of the first World War the Federal government raised nearly 9 billion dollars by taxation and 23 billions by loans. During the golden twenties it collected 44 billions in taxes and paid off nearly a third of its debt. During the years 1931–1937, faced by depression and its aftermath, it collected 23 billion dollars in taxes and borrowed 20 billions. Between 1940 and 1944 Federal taxes of all kinds approximated 90 billion dollars; borrowing, 257 billion.

Government Credit

The principles of public credit are little understood. Most people think of a borrowing government under the analogy of a glorified individual spendthrift running beyond his income. Sound use of public credit is more nearly analogous to intelligent corporation borrowing; but no comparison with private action is adequate, though the corporate analogy is helpful. There is among Americans a wholesome dislike of the incurring of public debt, as well as unreasoned alarm in the face of unbalanced budgets. If in any year cash receipts

of government, exclusive of borrowing, are less than its cash expenditures, its budget is unbalanced. The budget of the Federal government has been unbalanced since 1930, and the public debt by April, 1946, had reached 273.7 billion dollars. The debt in the thirties brought acute uneasiness to bankers and businessmen; the vastly increased debt of the war years roused much less anxiety, largely because it was accepted as inevitable, but in some measure because the growth of the national income allayed some fears about the size of the debt. The fear of unbalanced budgets finds three chief expressions: first, that they will cause inflation; secondly, that by piling up public debt they will impose an unbearable burden on posterity in the form of taxes to meet interest and principal; thirdly, that since they are the result of an unanalyzed government "extravagance," they will lead to a progressive squandering of the national resources and impoverishment of the people. Each of these ideas deserves brief examination.

When people say "inflation," most of them have no definite idea what they mean. In connection with government deficits the popular idea apparently is that the government, having financed current expenditures for a time by taxes plus loans, will finally reach the limits of that process. It will then set the printing press going and pay its bills with "unlimited" issues of paper money, as the German government did after the first World War, thus sending prices to fantastic heights. If that is what a government does, that will be the result; but we have small ground for thinking that our government will be guilty of such folly. In a more recondite sense some authorities fear that unbalanced budgets will bring inflation because, they hold, any and all methods of financing government deficits by increasing credit automatically raise prices. Their reasons for this opinion merit attention. Before going into the subject let us recall that we mean by inflation a rapid increase in prices caused by a change in our money mechanism. If money increases in amount with no corresponding increase in goods against which the new purchasing power can be exerted, we expect a rising price level. The question concerning government bond issues is, then, Will they result in new purchasing power and no more goods than before?

In examining the effect of "deficit financing," we need to make two sharp distinctions: first, between borrowing from individuals who transfer their purchasing power to the government and borrowing from banks by means of credit expansion; secondly, between borrowing in depression years, when facilities of production are idle, and borrowing when capital and labor are fully employed. When borrowing merely transfers purchasing power from the citizens who lend, to the government, which spends, there is no reason to fear an upward movement of prices, unless we conclude that the citizens would not

have spent the money had they not lent it. Doubtless different things, to some extent, will be purchased; but, whether the borrowing takes place in periods of depression or of prosperity, there is not likely to be a significant change in prices as the result of the sale of bonds. However, when the government borrowing results in an expansion of bank credit, as most government borrowing does, the range of possible effects is much greater. Suppose government borrowing for an emergency, such as our defense program, should become necessary at a time when factors of production were fully employed. Under such circumstances the new purchasing power does not create a larger stream of income, but competes for capital and labor already in use, as well as for a flow of consumption goods not subject to speedy increase. The result to be expected is a rapid upward movement of prices. Taxation drastic enough to curtail consumption, and a transfer of borrowing from banks to individuals, are the two obvious checks to inflationary movements thus initiated.

Borrowing by expanding bank credit in depression years may, in general, be expected to have no such effect. The new funds put idle resources to work; new purchasing power will be offset by an increase in the national income, and no general price increase will follow. The different effects of an unbalanced budget in periods of underemployment and of full employment are amply illustrated by contrasting the consequences of government borrowing during the first and second World Wars and during the depression. In the three years of the first conflict unbalanced budgets increased the public debt by 25 billion dollars, and prices rose by at least 40 per cent; in the first eight years of unbalanced depression budgets we increased the debt by over 21 billions and did not manage, even so, to raise prices to predepression levels. During the second struggle the debt rose from 42 billion in 1940 to 273 billion in 1946. Although there were idle laborers and idle plants in 1940, shortages of some productive facilities were already evident, and the country moved rapidly into a condition of full employment of its resources. It is not surprising that, in spite of the most valiant efforts of the Office of Price Administration, prices rose about 30 per cent during the six years. Once the distinction between government borrowing in periods of full employment and that in periods of underemployment is clearly recognized, we can readily understand why its effects in these periods were so different. Though it is possible to assert, as we have just done, that an unbalanced budget will not be inflationary in conditions of unemployment, minor modifications should be made to that broad statement. Even though the general price level may not be raised, if the increased purchasing power is focused on particular groups of commodities, sharp increases may come about in segments of the price structure. Or if, for example, the addition to the income stream consists entirely of materials for

defense, the greater purchasing power in the community may cause a rise in the prices of consumption goods, which have not been increased. This is not to contradict what has been said above. Such changes in prices should not be identified with runaway inflation, but it is wise to bear in mind that even when resources are not being used to the full there may be troublesome dislocations in our price structure.

The fear of burdening posterity with a government debt as a result of unbalanced budgets is likewise illusory, unless that debt is held abroad, as none of ours is. With a foreign debt, future national income is reduced by the amount of interest and redemption payments annually made to foreign holders, and in so far the foreign-held debt is a burden on the people of the future. So, and in exactly the same way, is the foreign-held debt of a corporation. But if a government borrows from its own citizens, as ours does, future national income is changed in distribution, but not necessarily in amount. In fact, the amount of future income may be either greater or less than it would be in the absence of borrowing. That depends, as we shall show, not at all on the existence of a debt but on the uses to which the borrowed funds were put. In that "burdened" future a certain amount of income will be taken each year from the taxpayers and passed over as interest and redemption (if any) on debt. In 1937 the Federal government thus passed over nearly a billion dollars from taxpayers to holders of government securities. We do not say that such a transfer of income is not important. It is. In general it is a shift of income from poorer to wealthier citizens, but this fact does not in itself mean that the total national income is smaller than it would be if no such debt existed. We cannot burden our posterity by increasing government debt, unless we place it abroad. We can burden them only by decreasing their power to produce income or by enslaving them to masters who will have the power to take away their product from them.

It should not be concluded from this that a government debt can never be too large or that it can never harm future generations. Neither conclusion is justified. A large debt may effect a transfer of future income which does much injury to national well-being. Whether it does will depend on the character of the taxation by means of which the interest is paid and on the distribution of ownership of the bonds. In 1944 the public debt had reached 185.6 billion dollars. Of that sum individuals held 41.8 billions; the remainder was held by insurance companies and savings banks, by other business corporations, by Federal agencies such as the Trust Fund of the Social Security Board, by Federal reserve banks, by state and local governments, and by commercial banks, the largest holders. Of their assets 64 billion dollars were in govern-

ment securities in 1944; by 1946, 91.8 billions. Future taxes employed to pay interest on the debt will thus go in the largest part to the owners of bank stock. That small proportion which goes to state and local governments may serve to reduce the taxes levied on their citizens by those units; but in general we are justified in concluding that the debt may lead to greater concentration of income in the future unless the system of taxation should be such as to provide a powerful counterinfluence. The second possible injury, implied in the reference above to a decrease in power to produce, will be more appropriately considered in the next section.

The third ground of fear of unbalanced budgets rests on a sheer assumption, namely, that governments waste, or "consume unproductively," the funds that they must borrow to bring the budget into balance. This leads us to consider what we mean by waste. Suppose the government by borrowing calls into use idle resources and employs them in a housing project. The project completed, it develops that the families who will make use of it are unable to pay sufficient rent to yield even 1 per cent on the investment. Is this to be regarded as necessarily wasteful on the part of the government? Be it remembered that had the government not employed these resources nothing would have been produced, for they would have remained idle. Whatever the housing program has added to the national income is that much better than nothing. This is not to say that the addition to the national income is as great as it conceivably could have been. There may have been waste in the technical use of the resources, or housing may not have been needed in the place where it was located, but clearly there was less waste than if the resources had not been employed at all. If the government is borrowing in periods of full employment, then the question of waste is a different one and we are thrown back to our consideration of what functions we wish the government to carry on, for expansion of its activities will create competition with private agencies for the facilities of production. Those functions determined, there is no reason why government should not borrow to carry them out, if borrowing seems, on a long view, the wisest way of financing them. A corporation has no hesitation about incurring debt, even a permanent and increasing debt, if that appears the most economical way of financing its growing activity. A government is in exactly the same position. It should borrow, never because it is the easiest way of financing, but without fear when it is the wisest way. It should finance no unwise activities, whether by loans or by taxes. What was said above, however, suggests that, in periods of full employment, taxation, not borrowing, is likely to be the wiser method. If borrowing is determined on, it should be from individuals, not banks.

Uses of Government Credit

We turn now to consider the uses of public credit. Governments in the past have borrowed chiefly for the destructive purpose of making war. The interest-bearing public debt of the United States in 1857 was under 29 million dollars; the Civil War carried it to 2.3 billions. At the outbreak of the first World War it was under one billion; that struggle carried it above 25 billions. The second world conflict, as was said, carried it from 42 billion to 273 billion dollars. Loans for war purposes put enormous material and human resources immediately at the disposal of the government. Instead of being used for the production of goods, they are employed as efficiently as possible for the destruction of life and property. Government credit so used is evidently an agency of impoverishment, albeit at times an inescapable impoverishment. Aside from the destruction accomplished, the income that would normally have been created by the use of these resources does not come into existence, and the country is immediately by so much the poorer. The real cost of the war thus is paid at once; but in addition, so far as productive resources (human beings and producers' goods) are destroyed or injured, their possible future product likewise will be lost, and thus a secondary real cost of the war will extend into the future.[3] Public borrowing for war thus impoverishes the people not because it is public borrowing but because it is unproductively or destructively used.

Government credit, however, is used by no means exclusively for war or other unproductive purposes. It is increasingly utilized to provide capital facilities for socially productive purposes. A new schoolhouse is needed today and presumably will be good for thirty years. It is built out of the proceeds of a bond issue, and the annual tax levy is increased to cover interest and amortization of the bonds over thirty years, so that the schoolhouse is paid for year by year as it is used. At the end of the period it is out of date and is torn down. Year by year during its useful life it performs an essential part in the production of the community income, and year by year the services of the schoolhouse are financed, just as those of the teachers are financed, out of the tax levy. The proper use of public credit for a productive purpose is thus clearly seen. We have purposely chosen as an example of a productive use of public credit a service in which the government receives no money return, because it is important to realize that wisely directed government activity is socially productive even though it does not pay any of its own way.

[3]No account is taken here of possible territorial gains or other compensation from a victorious war. Under modern conditions actual net increase of national income as the result of war has become highly improbable.

The performance of government functions, like the performance of the functions of private industry, requires constantly increasing expenditures for capital equipment, so-called public works of all kinds. Governments need land in increasing amounts, buildings, offices, schools, hospitals, health facilities, parks, playgrounds, roads, machinery, and equipment of every sort. This means that they need money in ever larger amounts. Long-lived facilities of all kinds should in theory be provided by borrowing, with interest and amortization fully covered out of taxes. As such facilities are increased, so must the taxes to pay for them increase, and long-time public borrowing takes into account the life of the facilities thus created and provides payment for them out of taxes during their useful life. Within that limit there is no reason why the growth of public debt incurred for useful purposes should be regarded as undesirable, or indeed as being anything else than the normal system of operation and accounting by which the capital facilities required for growing public services are to be provided. Well-managed corporations provide them in exactly the same way.

The variety of services for which provision thus may be wisely made is almost unlimited. A properly planned system of conservation and development of natural resources, for example, which lays upon a government a heavy debt, may in future yield its citizens increased income many times greater than the added taxes they will pay for interest and amortization of the debt. Heavy government investment in adequate housing, in public health, in education, and in recreation facilities for its citizens, if well planned, may yield returns in future income far in excess of the taxes they make necessary. Of course there is unwise as well as wise public borrowing, but the wise and courageous use of borrowing power is one of the most important tests of government today. In the preceding paragraphs we have really been emphasizing the acquisition of assets by the government, which will increase future income; but the intelligent use of borrowing power is not limited to the long-time provision of capital assets here described. It may be used also for the purpose, different both in theory and in practice, of making relatively short-time provision for stabilizing national income in periods of cyclical fluctuation, and thus to some extent stabilizing private incomes. This has already been discussed in Chapter Thirty-four. During depressions the production of the private economy falls. Idle men and idle machines mean a smaller national income. If at such a time the government borrows in order to set people to work producing useful things that otherwise would not be produced at that time, it prevents the dead loss of idle labor and adds so much to the national income. Accordingly, there is everything to be said for a capitalistic government's incurring a heavy deficit for such purposes during a period of depression. The practical problems

involved are difficult, but the practical necessities of modern states are driving their governments increasingly to such policies. Sound theory demands that the student be not misled by the cry for balanced budgets at a time when budgets ought to be unbalanced, or for the reduction of taxes at a time when taxes ought to be kept high for the very purpose of reducing the debt thus created, or in order to prevent inflation once we have passed into a period of full employment.

We have indicated the importance of a wise use of public credit, and the folly of failing to use it boldly at a time when it should be used. The existence of borrowing power offers no excuse for a dollar of unwise government expenditure, nor can any circumstances warrant public borrowing without a sound relation to taxation. Prospective taxes must always be adequate to meet the interest on loans, and, if the excellent American practice of the past is to continue, amortization as well. It should be observed, however, that our government has stood almost alone in this latter respect, and that national credit does not necessarily suffer because of the creation and increase of a permanent national debt, provided always that taxes are unquestionably kept high enough to meet the interest on it. This is the one indispensable fiscal condition of the wise use of government credit.

Taxes

Taxes are the backbone of the public revenue in the modern state. A tax has been defined as a compulsory contribution required of the citizen for public purposes. Writers on taxation have commonly treated it primarily from the standpoint of public revenue. Following Adam Smith, they have declared that taxes should be convenient as to method of collection, for the taxpayer and for the government, certain in amount, and levied with regard to the ability of the taxed. It is of course true that a tax system must meet the revenue needs of the government and must be shaped with due regard to its necessities, but we shall give attention chiefly not to technical fiscal problems but to questions that arise in connection with the other aim of taxes, namely, the control of the production, distribution, and consumption of income.

This second purpose is entirely disavowed by many writers, who contend that taxes should as far as possible be neutral in their effect on private economic life. Yet it is obvious that our tariff has subordinated the collection of revenue to other ends. A tax on privately owned machine guns is not to bring revenue but to discourage their ownership by private citizens. As a matter of fact every tax alters somewhat the economic balance that would exist without it, and in shaping a tax system plain common sense dictates the choice of those

taxes which promise to yield the desired revenue while producing in their collection the maximum of desirable and the minimum of undesirable results on the private economy. The greater the revenue needs and the resulting taxes, the more important it becomes to study the effect of the taxes employed on our production and consumption. The test of a tax is not whether it works hardship to a particular group but whether in the long run it will work to the advantage or disadvantage of the people as a whole. This is especially true in wartime. Taxes must then bring in large revenues; it may also be desirable that they curb consumption sharply in order to avoid inflation.

From this point of view three questions must be asked about the tax system: Is the scale of living of the people as a whole or of any group affected undesirably? Is the shift of income, which is accomplished in some degree by every tax, a desirable redistribution? Is private industry discouraged, with a resulting increase in unemployment and a decline in the national income? One of these questions relates to production; two refer directly to the welfare of consumers. The problem thus presented to the student of taxation is to determine how to raise the necessary revenue and at the same time to accomplish results socially desirable and to avoid results socially disadvantageous.

The American Tax System

Before attacking this problem we shall set forth the essentials of the existing American tax system. The general principles discussed can then be considered in their relations to our own experience and our present situation. There are more than 175,000 taxing units in the United States, including the Federal, state, and local governments, the last embracing counties, cities, towns, school districts, and other local units. Local governments rely almost wholly on property taxes; the states draw their revenues from a variety of taxes, notably on gasoline and motor vehicles. Under the impact of the depression they rapidly introduced general sales taxes, which have become important revenue producers. They also impose a considerable number of other taxes on business, including various corporation taxes. Now that state unemployment-insurance systems are almost everywhere in effect, the pay-roll tax has become nine-tenths a state and not a Federal tax. The states are also making greater use of personal income taxes and death duties (taxes on estates and inheritances). The Federal government, which down to the Civil War derived almost its entire tax revenue from customs duties and down to 1914, when the income tax was introduced, still received about one half of its revenue from that source, in 1937 collected less than 8 per cent of its taxes at the customhouses. During the half-century succeeding the Civil War the so-called

internal-revenue taxes, notably excise taxes on the manufacture of liquor and tobacco, shared about equally with customs duties the task of providing Federal revenue. Today they cover many other articles, such as radio sets and cameras, mechanical refrigerators, motor vehicles and gasoline, sporting goods, jewelry, playing cards, and toilet articles. There are numerous taxes on corporations, most important among them the corporation income tax. There are taxes on deeds of conveyance and safe-deposit boxes, on telephone messages and theater tickets. Almost all the taxes in this group, it will be noted, are collected directly from business concerns. The same thing is true of taxes on pay rolls and wages levied under the Social Security Act. The outstanding feature of the Federal tax system, as compared with state and local systems, is its extensive use of what we may call personal taxes. These embrace the personal income tax, the estate tax, and the accompanying gift tax.

Table XLVIII · Federal Tax Collections, 1945[4]
(in Millions of Dollars)

Total	$43,800	Miscellaneous taxes	$1,430
Income taxes	23,014	Amusement taxes	152
Liquor taxes	2,309	Automobile stamps	128
Tobacco taxes	932	Retailer's excise	424
Manufacturers' excise	782	Employment taxes	1,779

Classification of Taxes

For our purposes we classify taxes in two distinct ways: first, according to who ultimately bears them; secondly, according to the basis on which they are levied. Speaking from the first point of view, we shall have much to say about taxes on consumers. In form of levy no such tax exists. In actual effect property taxes on houses and land occupied by their owners for purposes of residence or pleasure, on passenger automobiles operated by their owners not for hire, and on all personal property, such as jewelry and household furnishings held for personal enjoyment, it is readily perceived, are taxes on consumers. Vastly more important, a large part of the taxes paid by business concerns, as we shall show, are and must be shifted forward to buyers in the form of higher prices, ultimately resting on consumers. Thus they are in fact, though not in form, taxes on consumption. When we speak of taxes on consumers or on consumption, therefore, we refer to taxes which in one of these two ways ultimately rest on consumers in proportion to their consumption. By contrast, personal income taxes are in no way affected by the income

[4]This preliminary statement of 1945 revenues as it appeared in the *New York Times*, August 20, 1945, is not complete.

receiver's consumption, but depend wholly on his income. Therefore they are not consumption taxes. Probably the most important single question that can be asked about any tax is whether in operation it proves to be a consumption tax within our definition. Our whole discussion really turns on that point.

Secondly, in order to facilitate intelligent discussion we classify taxes according to the basis of the levy. They may be laid (1) on property, (2) on business, or (3) on personal income. (1) Property taxes are laid on property as such, no matter how it is used. A house and lot worth $10,000 carry a tax of $250, whether occupied by the owner or rented to a tenant. Business concerns pay large property taxes, but such taxes are not business taxes, because they rest on business undertakings not as business undertakings but as property-owners like any other property-owners. (2) Business taxes are laid on business as such. They may be based on (*a*) the amount of business, as in the various excise taxes shown in Table XLVIII; (*b*) the amount paid for labor, as in the pay-roll tax; (*c*) the amount of profits, as in the corporation income tax, or the amount and rate of profits, as in the excess-profits tax; (*d*) the forms and agencies of business undertaking, as in the capital-stock and various other taxes on corporations; (*e*) various other bases. No matter how levied, they are sums taken from profit-making business as such. (3) Income, or perhaps better personal, taxes are laid on (*a*) personal income; (*b*) estates and inheritances; (*c*) gifts in anticipation of death. The taxes laid on wages to help in financing old-age pensions under the Social Security Act occupy an anomalous position. They are laid directly on income; yet they are collected from employers, who are required to deduct them in making wage payments. There is at least a fair question whether under some conditions they may not come to be added to the cost of production and consequently passed on to consumers in higher prices. In speaking of the personal income tax as such we do not include this tax on wages.

Ability to Pay and Progression

Before attempting to analyze our tax system and to consider particular taxes in detail we must first make clear certain important general considerations. In order to raise the necessary revenue with the maximum of desirable and the minimum of undesirable social results, it is generally agreed that taxes should be levied on people in proportion to their ability to pay. The alternative idea that they should pay taxes in proportion to the benefits they receive from governments has almost completely disappeared except in certain cases like street improvements, where a part of the cost is assessed against abutting property-holders on the theory that they receive a special, measurable benefit.

In general, however, ability to pay is believed to be the rightful basis of taxation. As an exception, there are taxes used to bring about some social result rather than to provide an income. The tax levied on state bank notes in the nineteenth century had no relation to the creation of revenue or ability to pay but was intended to eliminate these notes. Numerous examples of such use of the taxing power could be found. They do not invalidate the principle that ability to pay is just as between individuals, and, if properly interpreted, makes for the maximum of production by offering the least possible discouragement to private industry. But the measurement of ability is almost impossibly difficult, especially amid the complications of present-day economic life. Does the ability of people to pay taxes vary in proportion to their property, or their income, or their consumption, or some combination of all three? Does ability to pay increase faster than income or property increases? In other words, should taxes be proportional, or progressive, or even regressive? That is, should the tax be laid on income or property at the same rate, no matter what its size, or at a higher or lower rate as income or property increases? Again, if individuals should pay on the basis of ability, how about corporations? Their ability to pay is a different thing from that of their stockholders, even though the ability of the latter may conceivably be affected by tax payments made by the corporations they own. Questions of tax justice concern individuals, not corporations; questions of tax wisdom must take careful account of the ability of corporations because they produce so much of the national income. There are no final answers to such questions; yet we must seek answers. Modern taxation, in practice as well as in theory, tries increasingly to lay the burden where it can most easily be borne, that is, where it will least unfavorably affect the scale of living of the body of the people.

The principle of progression accordingly has become firmly embedded in modern tax systems. In considering its effect on scales of living, we have come to realize that it is a far more serious thing to take away 5 per cent of a thousand-dollar income than to take 5 per cent of a hundred thousand. To reduce a family's income from $1000 to $950 is probably to take from it some of the necessaries of life. To reduce a family from $100,000 to $95,000 is to leave it practically untouched, except in feeling. It may go without some needless luxury. More probably it will save $5000 less than it would have done. This realization has led to the introduction of progressive taxation, in which rates rise with the amount of income or property or whatever serves as the basis of the tax. Progression has appeared the more desirable because many taxes proportional in form are actually regressive in relation to income. A proportional tax of a cent a pound on sugar bears far more heavily on the poor than on the rich. Our $100,000 family doubtless uses more sugar than the

$1000 family; yet the latter pays a sugar tax many times greater in proportion to its income, to say nothing of its ability to pay. The same principle holds of all taxes on articles of general consumption. Consequently a general sales tax, most of which must be raised from sales of such articles and must increase their price, is a specially objectionable tax because of its definitely regressive character. Progression is employed to redress such inequities in some measure.

Shifting and Incidence

Before we can decide how a particular tax fits into a system of taxes designed to meet as far as possible the test of ability to pay, we must discover whether the taxpayer actually bears it, or whether in fact he shifts it to other shoulders, as suggested in our earlier statement about taxes on consumption. That is to say, in order to get any idea of the real effects of taxation on industry and on individuals, it is necessary to understand shifting and incidence. A tax is said to be shifted when the payer is able by the operation of the price machinery to transfer it to someone else, who is said to be the tax-bearer. The incidence of the tax, instead of resting on the taxpayer, is on the tax-bearer. Thus a customs tax is paid by the importer, but he generally shifts it to the retailer by adding it to the price he charges the latter for the goods imported, and the retailer in turn shifts it to the consumer by the same process. The consumer, unable to shift it, has nothing to do but bear it himself. No small part of our taxes are thus shifted in greater or less degree, and we know little about their real effect until we discover their incidence.

All tax-shifting is effected by subsequent price changes, and takes place only when the surrounding economic circumstances enable the taxpayer to recoup himself in whole or in part by advancing his prices, as in the case of the importer earlier referred to. It is therefore purely a business process. Taxes laid outside the business sphere cannot be shifted. Thus the personal income tax, laid on the net income of individuals, is inevitably borne by the payer. It reduces his income by the amount of the tax, and that is the end of it. The income tax can be made to stick. The same thing is true of the estate and gift taxes, and of all taxes on goods in the hands of owning consumers, like pleasure automobiles, personal property of all kinds, real estate (both land and buildings) occupied by its owners. Such taxes are borne by those who pay them, because they lie completely outside the realm of business activity. To revert to our earlier classification, taxes on property in the hands of business concerns and all taxes on business may or may not be shifted, the event depending on the special conditions, which we must now consider. We can do no more than indicate a few of the important general principles involved, which we state in the

form of four general propositions. In doing so, it must be remembered that all modifying possibilities are omitted and that we deal only with taxes actually paid by business, which therefore constitute business costs.

First, if a tax increases costs equally for all concerns, including the marginal producers, then in an industry of unlimited competition it must be shifted in greater or less degree. If the marginal producers are to continue in business, their increased cost must be covered by an increased price, in theory thus shifting the tax to the consumer; but the higher price will reduce the volume of purchases, and the marginal producers (or the marginal product) will be forced out. If production is notably reduced, the decrease in the demand for the factors of production may cause their prices to decline. If wages, for example, should fall, we should be justified in saying that the workers bore some of the burden of the tax in lower wages. The less elastic the demand the more complete will be the shift to consumers and the smaller the effect on the volume of production.

Secondly, if the tax does not affect the marginal producers, as in the case of a tax on profits, it will not be shifted. Since marginal costs are not raised, marginal producers are not obliged to get higher prices. Production will continue at the old rate, prices will be the same as though there were no tax, and consequently no part of the tax will be shifted. It is borne entirely by the producers who pay it, and whose profits are taken from them to the amount of the tax.

Thirdly, if the tax is laid on a monopoly, theoretically it will almost never be shifted. In theory a monopoly price is fixed at the point of maximum net return. If it is so fixed in fact, then raising the price would simply lessen the net receipts before taxation. The monopolist would be worse off than if he had paid the tax and let it go at that. In actuality monopoly prices, even in the absence of regulation, are, as we have seen, sometimes below the point of maximum net returns. Under such circumstances the tax might be used as an excuse for raising the price to that point, thus shifting the tax in part or in whole to the consumer.

Fourthly, if the tax is laid on an industry of limited competition, to whatever extent the price before the tax approximates a monopoly price, to that extent is the tax likely to be borne by the producers and not shifted to consumers by an increase of prices. Broadly speaking, we assume that price conditions in such an industry are likely to approach more nearly those of monopoly than of unlimited competition, and the probability of shifting is by so much reduced.

The shifting of taxes presents intricate problems of theory, and even greater difficulties of judgment about the practical application of theory. Notwithstanding the study devoted to such problems, it is impossible to do much

more than assert a few fairly obvious principles that appear to govern the process. No analysis can disclose with exactness the actual incidence of any particular tax. Nonetheless, intelligent tax legislation must proceed on the best attainable understanding of tax-shifting. Without such understanding taxes are laid in the dark, for their economic results are unknown.

Furthermore, it must be remembered that a change in the costs of a business or an industry occasioned by an increase or decrease of the taxes it pays, just like any other change in costs, sets in motion a series of price forces whose ultimate results may be widely different from the immediate consequences. Immediately, the businessman is practically always injured by an increase in the taxes he pays, and therefore, like all taxpayers, he wants to keep taxes down. Ultimately, if he survives any initial difficulties arising from the increase of his costs, he may find himself practically unaffected, because he has shifted the tax. The legislator, in planning tax changes, must take into account both temporary and permanent results. In the study of incidence we are concerned with the latter. It should be added that once a tax has been shifted by the necessary price change, it becomes burdenless so far as the actual payer is concerned. This of course does not mean that nobody bears it. Nor does it mean that every tax becomes in time an unobjectionable tax. It does mean that one should be careful not to accept uncritically every business complaint about the huge burden of taxes carried by business, and should not be unduly impressed by figures showing the high ratio of taxes to dividends or pay rolls or gross business income.

Property Taxes

Who pays our property taxes?[5] Partly, as we have already seen, they are paid by consumers, who also bear them; partly by businessmen, who may or may not bear them. The general property tax has long been the favorite target of tax-reformers. When property was almost wholly tangible and also widely distributed, it afforded a fair criterion of ability to pay and it was not incapable of fair assessment. With the development of corporate property, however, whose personal ownership is represented by securities locked up in strongboxes, it has become practically impossible for the tax assessor to determine how much personal property people have. Notwithstanding the injustice of such action, we are therefore in process of giving up the effort to tax it. The general property tax, and indeed property taxes in general, have become chiefly taxes on real estate and automobiles, by whomever owned, and

[5]In this sentence we use the word "pay" as referring to the ultimate payer, that is, the tax-bearer.

on other tangible property used in production, such as factory and railroad equipment. These things cannot be hidden, and it is possible to form at least some idea of what they are worth.

Since land value is the capitalization of anticipated rent, and since the tax on land is proportional to the value, it is proportional also to the rent. In effect it is a taking of part of the rent. Let the tax be raised. If the landlord tries to raise the rent, he will tend to drive the tenant to lower rent areas, which also pay lower taxes. Thus the landowner is forced to bear the tax, and we commonly assert that land taxes cannot be shifted. But it must be remembered that even the poorest land in a great city may bear a high rent, and to the extent that the tax increase falls on this land (marginal for urban purposes) the increased tax paid on land anywhere in the city will be shifted. The assertion that land taxes cannot be shifted therefore must be interpreted broadly. Nonetheless the principle is important, notably in studying the effect of rising property taxes on the owning farmer, whose capital is largely tied up in the land he works.

The building-owner is somewhat differently affected. The man living in his own house is indeed in the same boat with the landowner. Not so the owner of rented buildings. If the tax on buildings lowers the return on such property below that yielded by other investments, capital will avoid the building industry, thereby creating a shortage of buildings. This in turn will raise building rents and thus recoup building-owners, at least in part, for the tax they pay. In this case at least a part of the tax is finally borne by the occupier (the consumer).

The same principle holds with reference to taxes paid by business enterprises on all equipment other than real estate used in their undertakings. The property taxes paid by them on their buildings and equipment, however, differ in no wise from the other taxes they pay and from the other expenses of carrying on business, and the question of how far they actually bear such taxes need not be discussed separately from the first group of business taxes, which we shall consider next.

Business Taxes

Business taxes we shall discuss under the first four specific categories enumerated on page 775. Among taxes based on the amount of business done we include the excise taxes shown (and others not shown) in Table XLVIII, the amusement taxes, the gasoline taxes, and sales taxes, grouping with them, for present purposes, property taxes paid by business. In connection with these taxes our earlier discussion of incidence needs little elaboration. They

tend to raise costs generally, and therefore in industries of unlimited competition they are for the most part passed on to consumers. In industries of limited competition and monopoly they may be taken in whole or in part out of monopoly or quasi-monopoly gains; otherwise they are shifted to consumers. The amusement taxes are commonly added to the price of all except the cheapest tickets; the gasoline pump often indicates the tax as a separate part of the price. In large measure the taxes in this group ultimately rest on consumers. The question of their incidence is, therefore, On what consumers? Consumers of gasoline, mechanical refrigerators, and various taxed articles of the semiluxury type are found chiefly in the top third of our population, though even so the great body of these taxes is paid by families of modest income, since three quarters of that top third had family incomes below $5000 even in 1929. The general sales tax, most vicious of all modern levies, in order to be productive rests overwhelmingly on low-income families, since by reason of their number they consume the great body of goods commonly used. We shall not go far wrong in asserting that these business taxes in large part do not rest on business at all, but on consumption, and that they are in consequence regressive, and in some cases strongly regressive.

The pay-roll tax laid on employers to help provide old-age pensions for workers likewise rests largely on consumers. Paid by all employers in proportion to their pay roll, it may be assumed roughly to increase the costs of all equally, and therefore to necessitate a corresponding rise of prices. But even in a single industry different establishments may vary materially in the degree of their mechanization and therefore in the proportion of pay rolls to total costs. Taxation therefore may rest unequally in the first instance on different concerns. The most lightly taxed may conceivably keep prices down and expand their business at the cost of their competitors, without shifting much of the tax to the consumer by higher prices. As between industries there are great variations in the ratio of pay roll to total costs; there are also great differences in the elasticity of demand for the product of industry. There are therefore marked variations both in the amount of tax and in the ease with which it can be shifted. Glib generalizations with reference to the shifting of the pay-roll tax are therefore to be avoided, though it is reasonable to hold that much of it is passed on to the consumer. The same caution may well be observed in reference to all tax-shifting.

The remaining two categories we shall discuss primarily in reference to corporations, as they are chiefly important there, though some profits taxes apply to unincorporated business. We have a considerable group of taxes, of which the corporate stock tax is a good example, laid on corporations as such. They are levies on this particular form of business organization. If

there are lines of business in which corporations are subject to effective competition from individual enterprise, it may be argued that because of such competition in those industries the corporations will be unable to raise prices, that corporations otherwise marginal will be forced out of business by the levies, and that those which continue will bear the taxes themselves. The argument has little practical force. The advantages of the corporation for any business to which it is really adaptable are so great that business is likely to take that form, tax or no tax, and individual competition is largely mythical. It is doubtful whether corporation taxes differ greatly in their incidence from other business taxes. If they are graduated in accordance with the size of the corporation, it is conceivable that some of them may be made to stick to the big concerns as such, but it would be hard to prove. There seems no particular reason for thinking that the ordinary taxes on corporations work very differently from the two groups of business taxes already considered. No inconsiderable part of these corporate taxes, it appears, are therefore likely to be passed on in higher prices for the products turned out, unless the corporations operate in an area of monopoly or limited competition, where shifting is less probable. As applied to large corporations, taxes doubtless intercept some part of the earnings and in hard times make the financial position of the corporation more difficult. Witness the financial troubles of the railroads during the depression.

Even when the tax is borne by the corporation itself, its effect spreads further. The tax reduces the amount of funds available either for business expansion or for dividends to stockholders. In the conventional view, either the value of the stockholders' property or their income is reduced by so much. The figures of the Bureau of Internal Revenue indicate that 78 per cent of all dividends paid to individuals in 1929 were received by the richest .3 per cent of the people. It may be argued, therefore, that any corporate tax actually borne by the corporation falls largely on the well-to-do and wealthy. This may well be true. But as far as stocks are bought and sold on the basis of anticipated yield, a new tax on a corporation will theoretically reduce the value of its stocks by the full capitalized value of the tax. In sober fact it is hard to trace the effect of taxes on the market value of stocks. Too many other influences also are at work on their prices. We may reasonably surmise, however, that at least some of the social income that otherwise would find its way into the pockets of corporate stockholders is diverted by corporation taxes into the coffers of the state. Probably a considerable part of such taxes, like other business taxes, serves to increase costs more or less in proportion to the amount of business done and finally reaches the consumer in higher prices, as was indicated earlier.

Part of the opposition to corporate taxation springs from the complexity of the existing system, which is the product of growth, not of thoughtful planning. Three forms of tax have been in use: the normal tax, the surtax, and the excess-profits tax. Under the revenue act of 1941 the normal tax was a graduated tax which reached 24 per cent for corporations with net incomes over $25,000. On the surtax net income—income minus dividends—the rate was 6 per cent on the first $25,000 and 7 per cent above that.[6] The third tax was a tax on "excess profits," variously defined. In 1941 corporations were given alternative methods of calculating their excess profits. According to the first method they may deduct earnings equivalent to 8 per cent on the first five million dollars of invested capital and 7 per cent on invested capital over that amount. All earnings above these sums are excess earnings. The second method allows them to deduct 95 per cent of their average earnings for the years 1936–1939; earnings beyond that amount are considered excess profits. On such profits, calculated by one of these two methods, the corporation paid under the 1943 law 95 per cent. A postwar credit of 10 per cent of this was allowed. While the rate was high, there were many adjustments possible under the law, and the tax was far from being as rigorous as the rate suggested. The provision for renegotiation of government contracts, when it appeared that earlier contracts had allowed excessive profits, probably operated as efficiently to reduce the cost of the war to the government as the excess-profits tax did to bring in revenue. The amount of excess-profits tax is subtracted before the regular income tax is paid.

As a war measure there is much to be said for some form of excess-profits tax. Any profits tax of course reduces the income of the profit-maker, individual or corporate, by the amount of the tax. It is laid after the production process is completed, and there is no way of shifting it. The government simply takes a percentage of what is either a differential or a monopoly gain. In the ordinary view, taxes on profits, individual or corporate, discourage enterprise and production. This is easy to assert—and impossible to prove. No profits tax ever devised took more than a part of the profits, thus reducing their amount but not wiping them out. It may be contended that it is the hope of profits, not their size, that is the incentive to business enterprise, as far as profits are the incentive. True, the hope of large profits may lead to the taking of large risks, thus promoting new speculative enterprises. But does the supply of business enterprise vary with the size of the profits to be made? And is business management less or more keen when profits are hard to make? It

[6]The student should understand that this description simplifies and to an extent falsifies a bewilderingly complex situation. Alternatives, modifications, and exceptions exist in connection with most of the statements made here.

would be hard to adduce evidence that any profits tax has ever seriously discouraged enterprise and production, nor is there good reason for expecting it to do so.

Income Taxes

Without any attempt at nice determination of the incidence of our various property and business taxes, it becomes evident that in no small proportion they are probably passed on to consumers, and despite all efforts at tax justice are therefore regressive in character. This realization underlies the irresistible modern movement for personal income taxes. The most important change that has ever taken place in American tax policy was the enactment in 1913 of the Federal income-tax law.[7] Many of the important issues of the future concern the effective and proper development of the income tax, whose problems as yet are relatively new to us.

From the revenue point of view the income tax can be made highly productive. It is capable of nice adjustment to varying revenue needs by the simple change of rates. It is subject, however, to marked and uncontrollable variations in an economy like ours, in which the total social income fluctuates greatly. Nevertheless, by comparison with most other taxes it is a highly manageable tax whose yield can be forecast and whose effects can be known. It is sufficiently flexible to be adjusted with comparative ease to the various conditions to be met in tax policy. As an instrument of social policy it has two great advantages. First, it is possible to tell who pays it. Secondly, it is easy to apply to it the principle of progression. Consequently, if it is properly combined with inheritance taxes, it is capable of being used to almost any extent desired to lessen inequalities both of income and of fortune.

There is surprisingly little understanding of the fact that until 1941 this tax was largely a tax on the rich and well to do. In fact, throughout the most of its history it has rested almost exclusively on the rich, strange as the statement may sound to harassed small income-tax payers. The poor have been completely free of this exaction, as the figures of Table XLIX conclusively show. On their face the figures indicate that three fifths of all families have always been safely below the income-tax-paying level and that at least five sixths of them were exempt during 1925–1931. The facts are more striking even than that. In addition to the family exemption given in Table XLIX, from 1917 to 1920 the taxpayer was entitled to an exemption of $200 for each dependent; in the years after 1920, $400. At the peak of first World War taxation a man and wife with two children were exempted on $2400, not

[7]Throughout this section we are referring only to the personal income tax.

$2000; in 1940 their exemption was $2800. The figures given thus understate the actual amount of exemptions. The proportion of families that paid

Table XLIX · Tax Exemptions, 1913–1938, and Family Incomes in 1929 and 1935–1936[8]

FAMILY INCOME EXEMPT FROM TAX		PERCENTAGE OF FAMILIES HAVING INCOMES		
			1929	1935–1936
1913–1916	$4000			
1917–1920	2000	Under $2000	60	79
1921–1824	2500	Under 2500	71	87
1925–1931	3500	Under 3500	84	94
1932–1939	2500	Under 4000	87	96

income tax before 1942 had never approached two fifths of the whole. From 1925 to 1934 the number of income-tax payers varied between $2\frac{1}{2}$ and $1\frac{1}{2}$ millions, while families numbered upwards of 26 millions. Certainly not one family in ten paid income tax in any year of that period (including five of the fat prosperity years), and in 1939 not more than 6 million people enjoyed that privilege. The figures thus show clearly that not only the poor but the great bulk of the American people were until 1942 exempt from income-tax payment.

This is not all. Among income-tax payers it has been not the well-to-do but the rich who overwhelmingly have borne the burden. Let us ignore those who pay no income tax at all, and trace the weight of the tax on the small fraction of those who do pay it. Without quarreling over terms, let us call those required to report for income tax, but with net incomes under $5000, the comfortable; between $5000 and $10,000, the well-to-do; and above $10,000, the rich. The relevant figures for 1929 and 1934 are as follows:

Table L · Income-Tax Returns and Payments by Classes, 1929 and 1934[9]

INCOME	1929 NUMBER OF RETURNS (IN THOUSANDS)	1929 TOTAL INCOME (IN MILLIONS OF DOLLARS)	1929 TAX PAYMENTS (IN MILLIONS OF DOLLARS)	1934 NUMBER OF RETURNS (IN THOUSANDS)	1934 TOTAL INCOME (IN MILLIONS OF DOLLARS)	1934 TAX PAYMENTS (IN MILLIONS OF DOLLARS)
Under $5000	3012	8105	4	3672	7796	35
$5000 to $10,000	658	4442	10	290	1953	43
$10,000 up	374	12254	988	132	3048	433
Total	4044	24801		4094	12797	
Taxable	2458		1002	1796		511

[8] *America's Capacity to Consume*, p. 54; National Resources Committee, *Consumer Income in the United States*, p. 18. The two parts of this table, it should be observed, are entirely distinct. The right side refers to the years 1929 and 1935–1936.

[9] *Statistics of Income* (United States Treasury Department, Bureau of Internal Revenue), 1929, p. 5; 1934, Part I, pp. 6, 22.

These figures are astonishing. In 1929 the rich (with incomes above $10,000) paid almost the whole tax, while the well-to-do and comfortable, ten times as numerous and with a total income slightly greater than their richer brethren, got off with a beggarly 14 million dollars. In 1934 the rich, with their numbers shrunken to one third the 1929 figures and only about one-thirtieth as numerous as the other two groups, still found themselves paying 85 per cent of the entire income tax, though their total income was less than one quarter of the total reported for income-tax purposes. Let us put the matter in another way. If we accept the estimate of the Brookings Institution, people with incomes above $10,000 got about one fourth of the whole national income in 1929; they paid substantially the whole income tax. In 1934 they probably received a somewhat smaller proportion of the national income, and paid seventeen twentieths of the income tax. The American income tax has been in the past a tax on the rich.

As it stands, the income tax is a powerful instrument not only for raising revenue but for modifying somewhat the distribution of income. By comparison with other taxes it offers a unique opportunity to adjust taxation to ability to pay and at the same time, so far as it affects distribution, to help to bring about some measure of change in the present sharp contrasts in American family incomes. By lowering the exemption level until it was down to $500, the tax bills passed after 1939 increased the number of taxpayers to approximately 50 million. The normal rate in 1944 was 3 per cent, with a graduated surtax ranging from 20 to 91 per cent as incomes climbed upward. Next in importance to the increase in the numbers affected by the tax was a change in the method of collection, whereby the tax is now collected at the source. This "withholding tax" was made possible by canceling a large part of 1942 taxes in order to avoid the burden of double taxes in the year in which the change was made.

Postwar Taxation

The end of the war brought rapid changes in taxation which can be briefly summarized. The first step was to make available to business for reconversion and expansion 5.5 billion dollars in refunds and cash credits. This was followed by the Tax Reduction Law signed in November, 1945. Under this the excess-profits tax was repealed; corporation surtaxes were reduced, some 2 and some 4 per cent. The normal rate plus the surtax amounted, after the passage of the act, to 21 per cent on corporations with $5000 of taxable income, reaching 38 per cent on taxable incomes over $50,000. Under this law the exemption for single individuals is still $500, and for married persons $1,000, with an al-

lowance of $500 for dependents. The normal rate is 3 per cent; the surtax ranges from 17 per cent on the first $2000 of taxable income to 88 per cent on that in excess of $200,000. After the normal tax has been computed, the amount is then reduced by 5 per cent thereof. The same deduction is made from the calculated surtax.

General Effects of Taxation on Business

We now have cleared the way for a consideration of the question how far our system of taxation and the specific taxes constituting that system meet the basic test of ability to pay, that term being taken to mean not only comparative ability as among individual taxpayers but the ability of business enterprises to absorb in their costs what taxes they actually bear and yet to continue their task of helping to create the national income. On this latter subject there is much loose assertion and little careful thinking. There is a common idea that all taxes in some way discourage business, and that as taxes rise it becomes progressively harder for business to carry on. The businessman himself, harassed by rising taxes, not unnaturally holds this view. Nevertheless, it does not bear analysis. Except in one aspect, which we shall deal with later, the argument could not possibly apply to that large body of taxes paid by individuals as consumers or as income-receivers, and not by business enterprises. Even those taxes paid by business undertakings, as our discussion of incidence already has indicated, do not always rest upon the business undertaking. As we know, if increased taxes fall equally on all producers (including marginal ones) in a competitive industry, then they must be shifted to consumers by higher prices. Presumably certain marginal producers will be forced out, and total product and employment in that particular industry by so much curtailed. On the other hand, if such increases fall wholly on the profits of monopoly or limited competition, or on differential gains like land rents and competitive profits, they will be absorbed by the producers. In either event there will be no effective discouragement of enterprise, except of marginal producers, and no decrease of employment, except of their employees. Even this decrease is largely illusory. Once the resultant price changes have taken place in the first group, and without any price change in the second, the industries concerned will be carried on with no more difficulty than before the tax increases, though profits in the second group will be reduced by the amount of such increases. To understand this fact is the first essential to understanding the effects of taxation on business.

Let this be granted. Nevertheless, it is urged, consumption, especially of goods of elastic demand, will be lessened in industries of the first group.

Thereby both industry and employment will be cut down. As regards a particular industry the argument may be perfectly sound. It does not apply to the economy as a whole, however, and probably not even to the private section of it, if we assume any intelligent use of public funds. A government does not exact money from taxpayers and drop it into a bottomless pit. It uses its money for three purposes and three only: (1) to buy goods, (2) to hire labor, (3) to pass buying power over from the taxpayers to others. As actually used, therefore, all taxes, whether paid by business or by other taxpayers, either (1) create demand for goods produced by private industry, (2) create demand for labor, or (3) cause a shift in demand from things wanted by one set of people to those wanted by another. There is no reason whatever for thinking that the total quantity of goods effectively demanded, and therefore produced, is thereby reduced. On the contrary, by helping to maintain the material basis of abundant production, by bettering the human agents, and by improving the distribution of the product, thus helping private industry to operate regularly, well-directed government activities increase the total production of income. Indeed, total production may well be so greatly increased thereby that in spite of a continual rise in the proportion of the national income produced by government agencies the absolute amount produced by private industry likewise increases. Thus even a continual increase in the proportion of the national income taken in taxes does not of necessity imply any diminution in the production of private industry, and consequent discouragement of private enterprise. And even if government enterprise in time were carried so far (as it well may be) as to trench on private enterprise and actually reduce its total production, employment would not thereby be lessened. Government railroads have to have employees just as truly as privately owned railroads. The teachers in our public schools are just as genuinely employed as those in endowed private institutions, the men who work in the post office as those who get their pay from the telephone company. To recognize these simple fundamental facts is the second essential to understanding the effects of taxation on business.

The believer in the generally harmful effect of taxes adduces a third argument. Taxes, he maintains, lessen savings and so prevent the increase of capital goods essential to continued increase in the production of income. The reply to this contention has already been indicated in our discussion of inequality of income. But even if there were the least indication, which there is not, that taxes are reducing private saving below the level socially desirable, it is open to the government to meet the deficit by social saving. At need it could use its taxing power to collect funds not only to provide capital facilities itself but to make loans to private industry, as the Federal government in fact has done since 1932 through the Reconstruction Finance Corporation and other agen-

cies. If government activities are directed to constructive ends, the contention that tax increases restrict the desirable growth of capital facilities must be rejected. Taxes in general do not discourage business in general. It is true that taxes may discourage investment when savings are entirely adequate for expanded investment, not because of actual injurious effects but because of a certain psychological influence. So little are tax effects understood and so much are they discussed that enterprise may feel a threat which actually does not exist.

Summary

It may be well to gather together briefly the conclusions of this chapter. Government functions are expanding rapidly, and the relations of government to private economy are becoming increasingly important. More and more the regular functioning of private industry and its ability to perform adequately the services for which it exists depend on the regulating, directing, and co-ordinating work of the government. Thus government not only performs an immense and growing variety of direct, income-producing activities, but indirectly participates and co-operates in the private income-creating process. To determine the proper scope and forms and to direct the workings of government activity at each particular time is the perpetual task of modern statesmanship, and should be its exclusive preoccupation, by contrast with the power politics that have cursed the world from the beginning of history. In the practical task of producing and distributing the living of the people, government and private business ought to be in fact co-operating and not opposing agencies, with ultimate decisions in contested matters necessarily and properly in the hands of the democratic state. It is unnecessary to observe that honesty, efficiency, and intelligence in government administration are of constantly growing importance.

In performing its manifold tasks government necessarily incurs expenses. Since its activities directly create a considerable part of the total real national income and indirectly help to create all the rest, its money expenses have come to constitute a considerable proportion of the total national money income. In determining the desirable relation of government expenses to national income, we have first to determine the desirable activities, and then to determine what their performance costs under economical and efficient administration. That done, it remains to provide the funds in a way that will produce the maximum of desirable and the minimum of undesirable social results. Three methods are open. First, government may make a charge covering a part or the whole of the cost of particular services, or indeed may,

if it is deemed wise, make a profit. Secondly, it may provide funds for either short or long periods by borrowing. In understanding this process we should remember that the analogy of corporate borrowing is far more helpful than that of the individual incurring of debt. Thirdly, it may lay taxes. The power to tax, it must never be forgotten, is the cornerstone of government finance.

Taxes must meet adequately the financial needs of government, including interest on debt. In order to do as little harm and as much good as possible, they should be laid in accordance with the principle of ability to pay. The attempt to realize this principle has led modern governments to rely increasingly on personal income taxes, which possess both theoretical and practical advantages over most other taxes, in the effort to adjust taxation to ability. No one tax, however, seems capable of meeting modern fiscal needs, and we are obliged to rely on a variety of taxes.

Taxes should also be levied in such a way that their collection and spending together make for the maximum production of real income by the economy as a whole, including both the private and the government section. To this end it is important that taxes discourage as little as possible the production of income by private business. The popular idea that all taxes discourage business is incorrect. As the study of incidence shows, a large part of the taxes, even those laid on business itself, really affect it comparatively little. Of the taxes actually borne by business a considerable part probably exercise no serious influence in discouraging business activity. Taxes on profits, commonly supposed to have a peculiarly disastrous effect, in most instances do not have any such result. It is important, however, in laying taxes, to consider carefully their possible business consequences; it is necessary to take account of the manner in which any proposed tax change is likely to affect future distribution of income. Notwithstanding what has been said regarding the exaggerated importance attached to taxation in its effects on business as a whole, tax changes may seriously affect particular industries (especially in interstate competition) and particular business establishments. When the sum to be raised by taxation has been fixed, the decision as to the tax by which it is to be raised should take careful account not only of personal ability to pay but of the effect that the taxes involved have on special industries and on special business firms. In our economy output depends immediately on the decisions of businessmen. Therefore we must levy taxes not only in accordance with ability to pay but in such wise as to encourage businessmen to make decisions that will result in the largest possible production of the economy as a whole. Each individual sees his own business most stimulated by keeping its taxes as low as possible. The public treasury must look at the economy as a balanced whole and must view particular taxes in this setting.

CHAPTER FORTY-ONE

Other Economic Systems

THE opening chapter of this volume stated that there were in operation two fundamentally different economic systems. The pages which have intervened between that first chapter, in which capitalism was defined and its characteristics were set forth, and the present chapter have endeavored to describe the methods of capitalism, the institutions through which it works, and the relations of our government to its institutions and its activities. We turn now to an examination, albeit a superficial one, of the principles of the other system, collectivism, and the working of those principles in the states where they have been applied. In our account of our own economic order, even in Chapter Thirty-five, where we touched in summary fashion on the functions of government, we have not thought it necessary to consider the nature of our political institutions. Perhaps this is because, rightly or wrongly, we assume that we understand the workings of democracy and do not need to expound the democratic system. Once we undertake to examine the economics of socialism, we discover that it is difficult to consider the economic order without some knowledge of the political and social theories underlying governmental as well as economic organization. In fact, the theories are of vastly greater importance than the institutions and practices through which they are worked out at the moment. Economic forms have been frequently changed, and we need pursue their bewildering complexity only so far as is necessary to gain some notion of how the Union of Soviet Socialist Republics has attempted to bring its social ideals into existence. For Great Britain it will be possible to record but a few of the steps in the transition from a laissez-faire economy to a socialist state.

Socialism and Communism

We are undertaking here three rather different tasks: to gain some slight understanding of the historical background of socialism, to comprehend its creed and its platform, and to learn something of the arrangements of modern states which have set up governments intended to accord with socialist doctrine, at least in some measure. By socialism we mean an economic organiza-

tion in which the material means of production are owned by the entire community and operated by those representative of and responsible to the community according to a general economic plan, all members of the community being entitled to benefits from the results of such socialized planned production on the basis of equal rights.[1] Before we go further we must struggle with a problem of terminology. Exactly what is the difference in meaning between the two words in use to describe a collectivist state? Ask the five most intelligent people you know the difference between socialism and communism and you may get five different answers. Certainly the advocates of each believe that the distinction is of the highest moment. Each is given to denouncing the other, but it is difficult to induce either to abandon vague generalization for concrete statement. Occasionally the answer to your question will be that socialism is the first step toward full communism, but this in itself does not explain what differences communism will bring when it comes. The contrasts suggested below doubtless will call forth sharp disagreement, but by and large they seem to sum up those points on which the two doctrines of collectivism differ. The student must bear in mind that this is no hard-and-fast statement and that he will encounter much that is inconsistent with it.

The socialist believes in the group ownership of producers' goods used for large-scale production. He is willing to allow small-scale businesses to retain private ownership and expects the ownership of consumers' goods to remain in private hands.

The communist believes in group ownership of means of production and of consumers' goods alike, save those of the most purely personal nature, such as clothing.

The socialist is willing to retain economic motivation. That is, he can with consistency accept wage differentials in a socialist state.

Pure communism relies on noneconomic motives. In other words, distribution is according to need and has no relation to contribution or effort.

Socialism may be developed within the confines of a single nation. In fact, it may be as nationalistic as capitalism or fascism.

Communism is international.

Socialism is little centralized, and the socialist parties within different states need have little or no relation to each other.

[1]H. D. Dickinson, *Economics of Socialism* (Oxford University Press, 1939), pp. 10–11.

Communism is highly centralized; its adherents all over the world are in close connection and accept the same policies. The "party line" extends to every member of the party no matter where he is.

Lastly, those socialists who believe that communism is the completion of socialism believe the former to be a long way off and, for the most part, hold the view that its coming will be gradual. Communists, on the other hand, hold that the communist order will be brought about quickly by *the Revolution*, in which the workers of all the world will rise up together—a militant class-conscious proletariat—to destroy the democratic states.

When we come to examine the workings of collectivist theory in the Union of Soviet Socialist Republics, we shall find that it corresponds, or corresponded in 1939, more closely to the socialist pattern than to the communist, but that in some respects it has diverged from both. Yet we shall find also, and this increases the terminological confusion immeasurably, that the controlling party in Russia is the Communist party with world-wide communist affiliations, even though the Comintern, the international organization, has been dissolved. We seem, then, to have the Communist party, the only party which can exist in Russia, operating a socialist state. A further confusion in words exists: Marxian socialism, which is the avowed basis of the Russian order, rests on the Communist Manifesto. This need not disturb us, however. Marx and his followers used the word "communism" in order to separate themselves from the utopian socialists who had preceded them. All this by no means completely clarifies the situation. In any consideration of the doctrines of the socialist and the communist, and in the principles and practices of the Union of Soviet Socialist Republics, many inconsistencies in the use of these words will rise to plague us. Our discussion is devoted to socialism rather than communism.

Marxian Socialism

The father of modern socialism is Karl Marx, whose name is used familiarly by many who have small knowledge of his teachings. A brief and simple summary of his doctrines will help us to a better understanding of present-day socialism, though at many points it has departed from his tenets. First to be comprehended is Marx's exposition of a materialistic interpretation of history. "The mode of production of the material means of existence conditions the whole process of social, political and intellectual life." To trace historical development it then becomes necessary to follow the changes in methods of production. As Marx followed these from century to century,

he found his unifying principle to be the class struggle. In every age, he believed, one class in the system of production was pitted against another. By the nineteenth century, he reasoned, industrialism had brought it about that the two opposing groups were the bourgeoisie and the proletariat—in other words, the modern capitalist and the wageworker who owns nothing but his labor and is free to use that only when the capitalist gives him opportunity. This theory assumed that the middle class—the small merchants, shop-owners, and professional people—had disappeared or was in process of disappearing. Some of its members were to be forced into the ranks of the proletariat, others were to become hangers-on of the capitalists. From this point, as production expands and markets cover the whole earth, the centralizing tendencies of capitalism increase. The misery of the wageworkers deepens; commercial crises grow more frequent and more severe. Factories are closed and goods are destroyed. Capitalism has no solution to offer. Meanwhile, as the numbers of the proletariat grow and their suffering increases, their consciousness of class and of class interests grows. At last, at a time which Marx, when he wrote, thought was approaching, their sufferings are brought to an end by the Revolution, which ushers in the classless society and the socialist (or the communist) order. The mode of production will now become such that there can be no class opposition. All are producers together.

This forecast rests on the assumption that the amount of the wealth and income of one group will increase and the poverty of the other will deepen, and that the middle class will disappear. When the final struggle between the two remaining classes is over, the age-old conflict between classes which Marx found in all history will be ended. This was the picture of the future as Marx saw it in 1848. Today we know that the first government to adopt the Marxian theory was not a highly industrialized country but a backward agricultural state. In industrial Germany, where the development outlined by Marx might have been expected, nationalism and theories of race were substituted for the class struggle, and working-class movements disappeared. The revolution was not Marxian but fascist.

Marx's system incorporated not only a view of history but also an economic analysis in which the one point to be emphasized here is his theory of value. Building on the foundation laid by the classical economists, particularly Ricardo, Marx assumed all value to be the creation of labor. Of course that does not mean that he ignored the existence of capital or its place in production. He saw capital as the creation of past labor. The question which he must then answer was Why did not the laborer, since he had created value, derive the benefit from it? To answer this he added the concept of surplus value. The capital with which the laborer must work was, because of past

exploitation, in the hands of a small group of owners on whom the laborers must depend for employment. It was necessary for the owners to pay their workers only enough to keep them alive; the surplus that their labor created above this minimum amount became the property of the owner-capitalists. The great mass of workers were thus exploited to maintain the small group of owners in luxury and to increase their capital. Here was the explanation of the conflict which was inevitable, and which would eventually bring capitalism to an end.

Socialist Criticisms of the Capitalist State

Not all modern socialists phrase their charges in Marxian language, nor do they see an overturn of society as imminent. That belief is more likely to be part of communist dogma. Socialists do, however, present an impressive list of the failures and defects of capitalism. In large part these criticisms are sound and would be admitted by most students. The real question is Can a socialist system remedy the defects, and can it do so more effectively than they can be remedied under capitalism? That issue is not argued here, but it should be clearly understood.

The indictment against capitalism charges, first, that the inequality of distribution which has come about under its operation not only involves great moral injustices (we waive the moral question) but does not create maximum satisfaction. The argument by which this is established we have already canvassed, and we must accept it. Roughly, we may put it that the larger the income of an individual the smaller the marginal utility to be obtained from his purchases with increments of that income. One dollar's worth of goods of any kind to the man with a million dollars cannot be conceived to bring to him the utility that a dollar's worth of anything will bring to the family struggling along on $500 a year. We make our illustrations extreme, but the principle is at work even when the income discrepancies are smaller. The socialist further says that capitalism causes the wrong things to be produced. This, in reality, is a variation of his first argument. Those with large incomes cause productive resources to be used in the making of luxuries for the rich rather than necessaries for the many. We must agree with both these statements. The debatable questions are whether socialism could and would create a less unequal distribution than capitalism has achieved, and whether in the process of so doing it would not sacrifice other values which we prize highly.

What further meaning do socialists have when they say that the present allocation of resources is wasteful? Perfect allocation, judged by economic

standards, would be an allocation in which the marginal net product of each increment of a given resource would be equal. The cement used in building houses and factories and bridges would yield the same measure of productivity to the entrepreneurs who used it. We have seen that this would be the result of perfect competition. It is the essence of the working of the law of marginal productivity elucidated in Chapter Twenty-four. Each entrepreneur carries his production to the margin where the last increments of each resource just pay for themselves. One assumption of this law we did not mention when we first discussed it, and to this assumption the socialists call attention. Its implication is that there are no costs which the individual entrepreneur does not pay. Suppose, to quote Professor Pigou's illustration, the sale of alcoholic drink in a community makes a large police force necessary. The costs actually attached to the business are greater than those paid by the industry. Too large a part of society's resources (from the point of view of economics, not ethics) is invested in the production of stimulants, because the producers are not paying all their costs. On the other hand, there are services which are needed but for which it would be difficult to obtain a profit-yielding return. If left to private industry, the amount of capital invested in them would be small and the charges high. This is one meaning of the charge of wastefulness. If our present system fails to bring about perfect allocation of resources, could socialism do it? The vastness of the task of planning we considered briefly in Chapter Thirty-five and we need not review it here. There would certainly be many mistakes in the attempt to decide where and how our scarce resources were to be applied, just as there are mistakes in allocation under our present system. The problem is far simpler for the state that has a single goal, such as building a strong military machine, than for the state which desires to promote the welfare of its citizens by meeting their manifold needs and desires.

Socialist and capitalist alike would agree that in the waste of resources the waste of human resources is most serious. The evils of unemployment are undeniable, and we must grant that capitalism has not as yet solved this problem. We have already said that it must do so if it is to continue its existence. Socialists do not rest their case solely on pointing out the defects and failures of capitalism but make the positive promise that their order will do away with unemployment, will increase the national income, and will distribute it with greater equality. They point to Russia as a conspicuous example of their success. It is true that in the Soviet Union there has been little unemployment in the past twenty years. It is true also that Russia has been going through a period of remarkable expansion, when her natural resources have been developed at an enormously rapid rate. The same industrial expansion in a capitalist state likewise would have eliminated unemployment. The real test

of the system cannot come until Russia's industrial development has reached a later stage. The remedies for unemployment under capitalism we have found to be chiefly public investment and monetary control. It is probable that an advanced socialist state would use the same remedies. It may be that they could be applied more quickly and with greater effectiveness under socialism, for at least two obstacles which hinder the prompt resort to government investment would be removed: the fear that the new projects may compete with private industry and the fear of the cost of any far-reaching program.

When socialists bring the further charge that the profits motive is the source of abuses in capitalist society, the capitalists are likely to reply that it is also the source of enterprise and progress. This is unquestionably true, but if the latter go further and assert that it is the only source of progress they are on insecure ground. Their socialist adversaries can point to advances in medicine, in many branches of science, in exploration, and in artistic endeavor quite unconnected with the profits motive. It is by no means certain that man would cease to adventure once the lure of profits was removed. On the other hand, we cannot be certain that advance will continue without the expectation of profits, though again Soviet Russia offers some evidence in the controversy.

The Union of Soviet Socialist Republics

Thirty years ago the discussion of socialism was perforce carried on entirely in terms of criticisms of existing states, on the one hand, and pictures of a future utopia, as yet untried, on the other. In more recent years it has been possible to see the attempt to work out certain of the socialist dreams. For a time information concerning the Russian collectivist state came pouring from hundreds of inquisitive visitors of varying intelligence, honesty, and bias. In recent years, however, a censorship of amazing efficiency has shut Russia off from the rest of the world, and we actually know little of its development since the late thirties.

Here is a country within whose borders lies one sixth of the land of the world. Here live one tenth of the people of the world. The land area, equal to that of the United States, Canada, Alaska, and Mexico, includes in its vast extent only about one million square miles of good soil, but that is of great fertility. Much of the rest is too dry or too infertile to be worth much, given our present state of agricultural knowledge. In mineral resources Russia is richly supplied: coal, iron ore, and manganese exist in abundance. Platinum, copper, gold, and probably oil (though the amount is uncertain) also are to be found. Water power and timber are plentiful. Though the 170 million people who occupy this area represent 169 ethnic groups, three fourths of the total

population are Slavs. One of the noticeable characteristics of the people is its youth. The census of 1939 reported that 45 per cent were under nineteen years of age and 63 per cent under thirty. At this time the proportion of the American population under twenty was slightly over 33 per cent.

It will be remembered that Russia set up the liberal government known as the Kerensky government in March, 1917, and that that government gave way to the minority, Bolshevik government in November of that year. Under Kerensky Russia had been organized into local soviets or councils, and after the second overturn a Congress of Soviets declared itself the government, with a Council of People's Commissars as the executive organ and Lenin as the chairman of this body. In 1917 and 1918 the banks were nationalized, and the mercantile fleet, insurance, foreign trade, natural resources, and large-scale plants were brought under the control of the government. Thus there came into existence the first attempt on the part of any large state to establish a collectivist economic system under the dictatorship of the proletariat. The doctrine of Marx was accepted as the guiding light of the new government. Marx, however, described how and why the new society must come, but gave little space to details of organization once it had arrived. These the Lenin government had to work out for itself. The country was suffering from the chaos likely to follow a foreign war, along with the trials of civil war. The mines were closed, the factories were destroyed, and transport had broken down. At best a backward and undeveloped state, it had to meet at once every conceivable economic problem. No wonder that its first attempt at establishing a socialist government failed. In 1923 the Union of Soviet Socialist Republics was formed, and a compromise with capitalistic countries was made in order to establish trade relations and set the economic organism to work. The New Economic Policy (N.E.P.) was described as one step back to take two steps forward. The next year Lenin died and Stalin succeeded him. That marked a break in the ranks of the founders of the new order and the beginning of the struggle between the followers of Trotsky and those of Stalin, which still goes on. The Stalin rulers abandoned, at least for a time, the Marxian doctrine that collectivism must be international and set themselves to the creation of a strong national and socialist state.

Organization

Into the complicated structure of the political government we cannot enter, beyond saying that the Union was a federation of eleven units in the beginning —sixteen by 1940—which in local affairs are self-governing. Over all these is the Supreme Council composed of two houses. This council appoints the

bodies that carry on the central government, in which economic power is highly concentrated. It has jurisdiction over foreign relations, over budget, taxes, revenues, and banks, over agriculture and the development of industry. The organization of the state is elaborate, and is further complicated by its close relationship to the organization of the Communist party, whose members are in all the key positions, though they actually number only about two millions.

The administrative agencies are the Commissariats, of which there are eleven: Finance, Foreign Trade, Home Trade, State Farms, Agriculture (collective farms), Transportation, Food, Timber, Heavy Industries, Light Industries, Machine-Building. Under these are Administrations, each representing an industry; that is, an Administration for oil, one for coal, and so on. Again, under each of these there are Trusts operating particular plants. The Trust board appoints a manager for its plant and supplies information, organizes the records, and provides technical experience and advice. We thus have a line of organization which reaches from the central government to the single plant.

Planning

In characterizing socialism the writers of the thirties and forties have placed more emphasis on planning than did those of the twenties. Planning becomes possible with government ownership as it is not possible under private enterprise, and the development of the Russian economy had made its possibilities a matter of debate even before fascists undertook to create the planned state. It is possible in either system to plan both the economic and the noneconomic aspects of the state together and to set up whatever goals the planning authority chooses, assuming that the power of that authority is sufficient. In Russia, under the Council of People's Commissars, is the State or All-Union Planning Commission with some seventy members. Through the elaborate organization of industry which is in part indicated in the preceding section, the commission has at hand complete statistical studies of capacity and possible needs. At its service are technicians, statisticians, and experts of all kinds. Under it are two subsidiary planning agencies—one organized industrially, one geographically. Also, each Administration and Trust has its planning board. The first over-all effort was the Five-Year Plan of 1928–1932. This was followed by the second Five-Year Plan, 1933–1937, and the third Five-Year Plan, 1938–1942. The first was devoted to the increase of the heavy industries, the second allowed some expansion of consumers' goods industries, the third was interested in an increase in industrial efficiency.

In making a plan the goals are stated in tentative fashion and are sent out to regional and local bodies for consideration, accompanied by a one-year program and quarterly control figures to check with the five-year aims. In the local areas the scheme is broken down and considered, part by part, within the units which will be responsible for its success. The plans and the criticisms which result from this examination are then returned to the commission for revision and final adoption, and instructions in accordance with the program as a whole are sent to local areas. The plan must determine how much capital is to be used, how it is to be obtained and how allocated, and what shall be the product of each unit to which capital is assigned. Thus the size and character of the national income are determined, and the process of distribution is carried out by authority. The degree of success of the first and second plans is a matter of controversy. Some parts of the program were completed within four and one-half years; others lagged behind schedule. Scarcity of capital and lack of skilled workers were heavy drawbacks, but these were offset in some measure by the practical advantages of unified control and the enthusiastic response of the workers. Of the progress of the third plan we know little or nothing. The tension of the years after 1939, culminating in war, without doubt diverted all the energies of the country to military preparations and reduced the scale of living before it had reached anything comparable to Western ideals.

Russian Agriculture

The development of history departed from the perfect Marxian pattern when a socialist government was established first in Russia. The class struggle which Marx traced accompanied industrialism and was expected to reach its culmination in revolution after a country had reached a high degree of industrial development. Russia, however, was an agricultural state. More than that, its agriculture was still primitive. Over half its land was held by large landowners and worked by the strip system which we found England employing in the medieval period. The mass of the workers were therefore not urban factory employees but agricultural laborers with quite different aspirations. The utopia which they envisaged was one in which each should own his small landholding. If a collective state of any sort was to succeed, it was necessary to enlist the enthusiasm of the rural population. Before 1928 little progress in this direction was made. The opposition of the peasants to the collectivization of agriculture led to short crops, the slaughter of live-stock, and the hiding of grain. The management of the state farms was inefficient, and the country lacked machinery and knowledge for the large-scale agriculture which

was being attempted. The climax of agricultural difficulties was reached in 1932–1933, when crops were so short that many starved. The sufferings of that winter brought forth a determined, and apparently a successful, effort to enlist the co-operation of the peasants. By 1938 more than 90 per cent of farming was carried on in state or collective farms. The latter are co-operative enterprises in which farmers within a given area pool their land, machinery, and livestock and work their farms as a unit. Machinery not in the possession of the small farmers is furnished by tractor stations, which are now so numerous that all collective farms can have their services and power. The collective units average about 1300 acres, worked by perhaps one hundred and twenty or thirty families and supervised by the Commissariat of Agriculture. Once the crops are raised the tractor station must be paid for its services, provision must be made for seed and for the food of all who live off the collective, and a certain percentage of each crop must be sold to the government. Whatever is left is divided according to the number of labor-days contributed by each co-operator, the labor days being calculated by an elaborate system of valuation for the different kinds of labor contributed by the different workers. In 1935 a collective charter was granted to the peasants which declared that the collectives were to hold in perpetuity the land which they cultivated. It also provided for some measure of self-government within the units, though most of the important decisions are made by the planning authority.

The state farms, in units of five thousand or more acres, are owned outright by the state and managed by Trusts, as is large-scale industry. The state owns the machinery used on these farms and hires the laborers. The product belongs to the Trust, just as the product of a factory belongs to the operating Trust. The laborers on the state farms are allowed to own their own homes and livestock for their own use. In the early days of the Soviet Union the state farms were used as laboratories to demonstrate improved methods of agriculture.

Russian Industrial Labor

The position and progress of the industrial worker in Russia have been watched by workers all over the world ever since the establishment of the new order. In 1922 the Labor Code was adopted, under which wages, hours, and working conditions were established, child labor was forbidden, and labor benefits outside wages were outlined. The 26 million workers are organized into industrial unions, of which there are 168, one for each industry. In each plant is a shop organization; above this are regional and district groups; and at the top is the All-Union Congress, which meets every two years. The delegates

to this meeting elect the central committee of the union, a body with from thirty-five to seventy members. This group elects the president and secretary. The unions have to do with promoting the productivity of the plants, organizing the cultural activities of the working groups, settling local disputes, and administering social insurance. They also make collective contracts, though the collective bargaining of the Soviet Union bears small relation to that of a capitalist state. Their most important function has probably been to forward the productivity of industry. For the purpose of increasing output the system has not hesitated to use wage differentials as incentives. Much of the work is paid for by piece; those jobs on a time basis are arranged in categories, with a wage determined for the category. Managers within a plant receive more than the workers, and workers in different plants are paid according to different scales. Differences in wages are not the only incentives relied upon to increase the workers' output. Prizes in money or goods, in trips or theater tickets, may be offered for large output, or the Order of Lenin or the Badge of Honor may be bestowed for efficient work.

The scarcity of consumers' goods in Russia has kept the cost of living high and the scale low, but the many social services provided by the state have in part offset this handicap. Old age, disability, and death are protected by insurance benefits; unemployment insurance has been given up, since there is no unemployment. Medical care, now administered by the state, goes beyond anything up to this time attempted by any Western state. Recreation, vacations, and vacation homes are provided for the workers, who since the war are reported to be working eight hours a day, with two weeks' vacation with pay. From 50 to 60 per cent of the factory workers are women. There are few today who would contend that Russia is controlled by the workers, and the contention that it is (or was before the war) controlled for the benefit of the workers would be hotly contested, as common report has been that their conditions grew worse rather than better in the last years of the thirties. No final decision on this can possibly be reached on the basis of our present knowledge.

Prices and Trade

Money is used in the Soviet state, the unit being the ruble, and many of the financial terms of a capitalistic economy persist, though the working of the economy is very different. Enough has been said to make it clear that price control as we know it cannot prevail, even though prices do exist. The important groups of prices are (*a*) those used in the dealings among the state enterprises, (*b*) wages, (*c*) agricultural prices, and (*d*) prices paid by consumers.

The first group provides a method of keeping accounts rather than of exerting control. A coal company does not sell its coal to the highest bidder, nor does a railroad buy coal from the mine which offers the lowest price on coal. The planning authority decides where the coal is to go and fixes the price on it, setting it high enough to cover outlays and yield a predetermined profit. To us this seems more or less meaningless—at least it has no such meaning as it would have in a capitalist society—for the planning authority also fixes the amounts of the outlays, so that what actually takes place is that the authority determines the amount of the costs and then sets a price somewhat higher than it has fixed the cost. The profits when they come in are divided into three parts: one goes to the state, one to the bank for long-term credits, and one to the Trust.

The government likewise fixes the prices it pays for products delivered by the collective farms. Here prices are used as incentives to increase production. The compulsory deliveries must be made at a low price; for surpluses above this minimum sale the price is higher.

The greatest complexities are found in the market for consumer's goods, though here the situation is much simpler than it was in the twenties. Until 1935 many consumer goods were rationed and buying was carried on largely through three agencies: stores open only to the employees of particular enterprises, stores in which all factory workers could purchase by means of ration cards, and open stores where the prices were much higher and where anyone with money could buy. Since 1935 open stores have largely supplanted the other forms of market. The wholesale shops buy from government factories at prices set by the government; the retailers buy from the wholesalers. On these turnovers the government imposes taxes—sometimes insignificant in amount, sometimes very heavy. When it is desired to check the consumption of a good, it is an easy matter to increase the amount of the tax on the particular good. Thus price in a measure performs some of the functions which it performs in a capitalistic society. It limits the amount of consumption and it makes choices possible. Within our society, however, an increase in demand would tend to raise the price of a good and might bring forth greater production. In Soviet Russia these results would not follow an increase in demand unless the planning authority so decreed.

In addition to open trade carried on through shops supplied by government factories, there are also purchase and sale by co-operatives and a vestigial private trade which has rapidly diminished in amount, chiefly because the goods bought and sold are in the hands of government Trusts or co-operatives.

Foreign trade is entirely controlled by the Commissariat of Foreign Trade. It has been of the utmost importance to establish foreign credits in order to

obtain the imports necessary to Russia's rapid industrialization, and the entire management of exports has been conducted with that end in view.

Public Finance

The revenues of the state come in large part from the state-owned industries and from a tax on commodities. There are also taxes on the collective farms and voluntary or compulsory subscriptions to state loans. With the funds thus obtained the state pays the usual expenses incident to the administration of any government, such as the upkeep of administrative agencies and of the army. In addition it provides funds for capital replacement and for capital increase. It is estimated that for a period of years since 1928 Russia has put into capital investment probably a third of the national income, a far larger proportion than that saved and invested in the United States. The method by which such investment is accomplished is as follows: Suppose it has been decided that a new tractor plant is to be built. The plant is given a credit on the books of the state bank. As its managers encounter costs in the process of building they give the equivalent of checks, which are subtracted from this credit. When it is finished, its products are sold and the returns credited to it. The state bank may increase or decrease the original credit. Suppose the sale of the products pays expenses and leaves a margin similar to that of the industries of other countries. This may be a planned profit brought about deliberately by the price set on the product, or it may be an unexpected profit, the result of unforeseen economies or large sales. Whether the plant yields a profit has nothing to do with whether its business is to be continued or expanded. This is determined by the judgment as to whether it is socially useful. The profit, if there is one, goes to the government and may then be used to finance the varied health and recreational or cultural activities, to offset deficits in other factories, or to offset a deficit in this particular plant at some other time. Or it may be used for the expansion of this or some other industry. And of course it may be applied to the ordinary running expenses of the government. From what source comes the bank's ability to grant the original credit which was assigned to the new plant? The source may be the profits of some other industry or taxes, but these are not the only sources of savings. The government itself sells bonds to its people and makes use of savings-bank deposits and social-security assessments.

Suppose the government has 30 million rubles available; then the planning authority must decide how it is to be distributed. How much is to go to the steel industry, how much to railroads, how much for government buildings? How much of what goes to steel shall be used for rolling mills,

how much for blast furnaces? How much of the allotment for railroads shall be used to build repair shops, how much for new equipment? Some of the long-term grants will call for interest; some are grants with no obligation attached. Once they are decided on, they are managed through the industrial bank, which is responsible for the efficiency with which the funds are handled. In addition to the industrial bank, there is a bank for agriculture, one for co-operatives, and one for public utilities.

The Socialist Experiment[2]

The flood of attempts to evaluate the Russian experiment has brought forth highly diverse results, depending in large part on the measure of sympathy or antipathy felt by the writer. The task would be difficult even if the observer could rid himself of all bias. The organization is bewilderingly complex. Economic and noneconomic features are intermingled. There is much reason to suspect the accuracy of the data, but most difficult of all is the determination of standards by which to judge. Tests which we should apply to Western industrial countries will scarcely serve in a backward country in transition from primitive agriculture to advanced industrialization. As compared with that of our own land the scale of living seems appallingly low, but how does it compare with that of czarist days? How much is the scale raised by government services? How much have short-time values been sacrificed for long-time achievements? How shall we compare the economic benefits, whatever they are, with the absence of freedom, the repression of all opposition, the regime of fear? Has Russia provided the classless society and the rule of the proletariat, or have these Marxian ideals entirely disappeared under the present regime? We have here a government which controls the sources of information, the factories, the mines, the farms, the retail stores —in fact, every step in production. Russia's achievements during the war suggest that the control is an efficient one. So far as material production directed toward achieving military strength is the criterion, the system has "worked." But this success provides little help in answering the far more difficult questions raised above.

[2]The world has passed through a struggle on a scale so vast as to beggar our comprehension, for the sake of determining whether the leaders of the system known as fascism should bestride the world. Its adherents have been defeated, its economic organizations overthrown; and it is scarcely necessary to review them here. They belong to history, not to modern practice. Fascism was a political system using whatever economic agents it found available for the aggrandizement of the state, some resembling capitalistic forms, some collective.

Socialism in Great Britain

In striking contrast with the ways of the Union of Soviet Socialist Republics are those of the Labor government of Great Britain. First to be remarked is the fact that one government is the result of revolution, and certainly was in its early years the government of a minority, maintaining its position by violence. It is still a government which allows the existence of but a single party. The other holds office by reason of a free election in which various parties contended for the support of the electorate. After that election, though the party pledged to nationalize a number of key industries won an unmistakable victory, the other parties did not go out of existence, and the Conservatives still voice "His Majesty's opposition." Secondly, the Russian leaders profess themselves devout followers of Marx, whereas for sixty years the prevailing Socialist teaching in England has been that of the Fabians, with their emphasis on the need for education and yet more education, on the virtue of knowing all the facts before one acts, and on the gradual nature of social change. Of the nearly 400 members of the Labor party elected to Parliament in the summer of 1945, more than 200 were members of the Fabian Society, and there is good reason to believe that the Fabians will exert great influence on party policy. Thirdly, the Russian government established in 1917 was a government of the proletariat, whereas the Labor vote in Great Britain was in considerable part that of the middle class—that class which, according to the teaching of Marx, should have disappeared.

The problems which faced the two governments were as different as were their origins. The rulers of Russia must transform a primitive agricultural economy into a modern industrial state, and they must do it with great speed. One of the early leaders once remarked that his country was attempting to do in ten years what Great Britain and the United States had taken one hundred and fifty to accomplish. In England, the home of the Industrial Revolution, the problem also is a problem of production; but here existing industry must be reorganized, obsolete machinery scrapped, obsolete methods discarded, and vested interests placated. In most academic discussions of socialism the goal presented is a more equal distribution of product; but in both these countries the immediate task is the creation of income, not its redistribution. It is significant that in English discussion in 1945 the distribution of income received comparatively little attention. The chief criticism of capitalism offered by the Fabian Socialists has been its inefficiency, and the test of the success of the new government will be its ability to increase the national income. Advocates and opponents alike agree on this. Standards of accomplishment are lamentably low. There is a scarcity of skilled technicians and of trained

managers. Production per man-hour has fallen behind that on the Continent. The first question to be put about any change made by the new government will not be, Does it increase equality of distribution? but Does it increase productivity?

It is no part of the announced purpose of the Labor party to socialize all English industry. Certain key industries—coal, power, transport (including civil aviation), iron and steel, cable and wireless—are to be nationalized as rapidly as it can be accomplished without disrupting the economy. Other industries, especially those which have been notably inefficient, will be placed under a considerable degree of government control, but the ownership will remain in private hands. Investment is under government regulation, and the state will also control exports and perhaps subsidize them. What promises to emerge is by no means pure socialism but what was referred to in the first chapter as a mixed system, the mixture still containing a large portion of private enterprise.

In putting the party program into operation the first step was to nationalize the Bank of England. This was completed early in 1946. For most of its history the Bank has been so completely identified with the financial policies of the British government that it may surprise some students to learn that it has been a private institution. The change of owners makes no change in policy or management, and was accomplished with little ado. The present head of the board retains his post, with a term of five years instead of the customary two. The shareholders, exchanging their bank stock for government stock, receive the same income which the Bank has paid for the past twenty years. Every significant feature of the former organization has been retained, and the power of the Treasury is limited to asking the Bank for information and making recommendations to it. The Treasury can issue no orders without the authorization of the Bank.

The second step was the acquisition of the coal mines. The problem presented by the coal industry was very different and much more difficult. Here was an industry which had been in a state of chaos most of the time since the first World War. It was inefficient, badly managed, its labor relations were bad, its owners were thoroughly unpopular. Every conceivable method of reform but government ownership had been tried. The government had to decide the method by which the mines were to be acquired and the amount and form of compensation to the owners, and to devise an organization which would replace inefficiency with efficiency. The most vexing immediate problem was that of compensation. With the Bank a long history of stable dividends provided a standard. There was no such standard in the coal industry. Instead of exchanging with shareholders government stock for mining stock, the

government dealt with the companies, which received the recompensing government securities and will receive the future interest payments. The coal companies are free to make what arrangements they like with their shareholders. If they wish, they may go out of business and distribute the government obligations to the shareholders. The one thing which they are not permitted to do is to throw these obligations on the market and compensate their shareholders from the cash thus received. For the future all mines are to be under a National Coal Board of nine members, appointed by the Minister of Fuel and Power. The duties of the board are (1) to increase coal production and to develop the industry; (2) to make supplies of coal available at prices which shall be in the public interest; (3) to promote the health and welfare of the miners. There are to be advisory councils made up of consumers and distributors, the latter being still private enterprisers. To increase the productivity of the mines 600 million dollars has already been appropriated for the purchase of new equipment.

In the steel industry a board appointed by the government co-operates with the steel federation in reorganizing—not in nationalizing—the industry. Foremost among the inefficient industries due to be controlled is cotton, the industry in which Britain once led the world. The plan of improvement to be tried provides for a "working party," made up of four representatives each of employers, trade-unions, and independents who have no connection with either group. This will probably be tried in pottery, hosiery, boots and shoes, as well as in cotton. The task of the "working party" is to produce more goods at lower costs. Industries considered to be operating efficiently will not be placed under such control.

In all this there is little that is doctrinaire. The practical Englishman would probably say that he was less interested in who owned industries than he was in their performance. Their performance as private enterprise had not been satisfactory. It was time to try something else. The change has been accomplished in a thoroughly democratic manner and, so far as one can now judge, with little upheaval. A laissez-faire economy has given way to a mixed system in which the state takes on more reponsibility for the increase of national income.

France, Belgium, and the Netherlands are moving in the same direction, and it seems probable that for most of Europe the national credit, the coal mines, and perhaps the iron and steel industry will be nationalized.

It is scarcely accurate to attribute to the Labor party the program for social services and public health, since much of that the Coalition Government had accepted before its fall. This includes a thoroughgoing plan for social insurance which is intended to cover man's progress from the cradle to the

grave. In addition, a comprehensive health service is rapidly coming into existence. All hospitals, both municipal and voluntary, are placed under regional hospital boards and their endowments pooled. Medical services are to be supplied to all, physicians being free to enter government practice, to remain in private practice, or to combine them. They are also free to practice in any area they like, with the single exception that they may be turned away from districts already overcrowded with doctors. They receive not a fixed salary from the state but payment for the services they perform. The public service is to be organized under regional councils, half of whose members must be doctors.

Co-operatives: a System within a System

In the discussion of capitalism and collectivism in the opening pages of this volume brief reference was made to the possible modification of capitalism by the co-operative movement. As a postscript to a chapter dealing with criticisms of the capitalist system and with the substitutes which are in operation a brief explanation of the co-operative movement, not as an alternative economic organization but as a practical program which is operated within the capitalistic framework, will not be out of place. The story of the twenty-eight Rochdale weavers who in 1844, with their meager savings, started the first consumers' co-operative is well known. By 1851 little shops such as the weavers established numbered 150. They spread through England and on the Continent, finding their greatest successes in Denmark, Sweden, and Finland. Today the English Co-operative Wholesale Society is the largest distributor of goods in the empire, with its own coal mines, insurance companies, tea plantations, and steamships. In Sweden 20 per cent of the trade is done by the co-operatives, to which one third of the households belong. In this country the movement was for a number of years less successful, but the ten years between 1936 and 1946 have been years of rapid growth.

Co-operatives may be divided into four classes on the basis of the economic function which they perform: producers' co-operatives, marketing co-operatives, finance co-operatives, and consumers' co-operatives. The first have been few and, with rare exceptions, have been failures. In a genuine producers' group the labor of the members is pooled. They must then find a market for their product. This brings them into competition with other producers, many of whom have access to cheaper capital, can buy their raw materials to better advantage, or have well-established markets. The end is usually failure for the co-operative. In marketing co-operatives, most common among farmers, not the labor but the product is pooled. Production remains

an individual matter, but the selling is a collective enterprise. California Fruit Growers' Exchange and Land O'Lakes are examples of well-known marketing groups. Much that is said of consumers' co-operatives is not applicable to marketing co-operatives, which are distinctly profit-seeking organizations in the spirit of capitalism. The third group are the credit unions, of which there are over 9000 in the United States, doing a business of 200 million dollars annually. In these the members, through small contributions, maintain a fund which can be lent at low interest to any member in need. Last, and more important, are the consumer co-operatives, which are the ones usually thought of when co-operatives are mentioned. These include retail stores, laundries, restaurants, petroleum associations, and service industries. Their form of organization is still close to the Rochdale plan. Membership is open to all applicants. Capital is raised by selling shares, usually at a very low price. On this a fixed interest is paid, not higher than the prevailing rate of interest at the time they are purchased. Each member, no matter how many shares he may own, has one vote only. Thus control remains completely democratic, no matter what the concentration of shares. Goods are sold to members and nonmembers alike, commonly at market prices and for cash. Because the members themselves supply the market, no expenses for advertising are thought necessary, nor is it necessary to pay high rents for popular and accessible locations. Any savings achieved by these or other means go in part to enlarging the business; in part to the work of education, which is regarded as an important function of the co-operatives; and in part to the members, in proportion to the amount of their purchases.

Once a group of retail stores attain sufficient size to justify the next step, they federate and form a wholesale co-operative, owned by the federating units. In future their buying is done through their wholesale society, and thereby their savings are increased. The wholesale house is soon ready to establish producing units to supply some of the commodities which it sells: for example, a mill, a creamery, a canning establishment. These are not producers' co-operatives but an extension of the machinery for meeting the needs of the consumer. Nowhere in this chain is it necessary to search for customers. The customer is taking the initiative in supplying his own wants. The difficulties of co-operatives lie in other directions. They must avoid exciting the hostility of local business; they are vulnerable to unfavorable state legislation; they suffer from a lack of capable management. In the United States it is possible that the last-named factor has been their most serious weakness. While they constitute no large part of American trade, nevertheless in 1944 they did a business worth 568 million dollars, which included the production of goods valued at 65 million dollars.

The supporters of these organizations offer divergent arguments: some consider co-operatives as a practical method of obtaining goods at lower costs, as a curb on monopoly, and in general as a check on the power of exploitation of the consumer which lurks in the capitalist system. Some adherents, though probably not many, find a more fundamental social reason for the movement. They argue that production is for the purpose of consuming the product, but that it is developed under capitalism not to benefit the consumer but to provide profits for the producer. To make profits he must keep goods scarce and prices high. This is clearly not for the benefit of the consumer. Our system has divided the population into two bodies with opposing interests. If the consumer were to run industry, this cleavage would be eliminated. In the co-operatives consumer interest is the only interest. There is no need for profits, but only for such savings in costs as will make for lower prices and higher living standards. There is no occasion for fraud, the wastes of advertising, or high selling costs. Those holding this faith see in the co-operative movement a force which eventually will bring to an end the capitalist system as we know it by turning industry over not to the state but to the consumers.

This discussion raises a question with which our study may well close: Can the evils of capitalism pointed out by its critics and admitted by its advocates be purged from the system, or are they inherent in it and therefore to be ended only by ending capitalism? Can we maintain our economic system and by means of it achieve the maximum of satisfaction for a free people?

Suggested Readings

IN THE SUGGESTIONS which follow for each division of the text an effort has been made to select readings which do not demand from the student knowledge and understanding which he has not yet acquired. Some subjects neglected in the text are expanded, some opposing points of view are presented, and some sources of information are indicated. The list, though a varied one, has been kept within the possibilities of a small library, with frequent inclusion of the useful and readable material issued by the Federal government, most of which can be easily and quickly obtained.

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